

January, 2003

Dear Reader,

Thank you for your interest in the Loomis NRCA planning process. During the past year and a half, DNR has worked with a diverse group of people interested in the Loomis Forest and have worked to conduct an open and transparent planning process. The Loomis NRCA Plan was written to meet requirements outlined in the 1998 Settlement Agreement and First Memorandum of Clarification and the NRCA Act (RCW 79.71). The legal requirements and management policies are described in the Introduction chapter of the draft NRCA plan.

Work on the planning process for the Loomis NRCA began in the spring of 2001. The public process began in September 2001 with an open house in Tonasket. The NRCA planning process was one of five planning projects introduced at the open house. A coordinated planning process was designed to serve all five of the planning projects. To date, five public workshops have been held (approximately every 3-4 months) and at each workshop the public has had an opportunity to receive information about and make comments on, each of the projects, including the Loomis NRCA.

Internal work on the planning process for the Loomis NRCA began in the spring of 2001. The public process began in September 2001 with an open house in Tonasket. The NRCA planning process was one of five planning projects introduced at the open house. A coordinated planning process was designed to serve all five of the planning projects. To date, five public workshops have been held (approximately every 3-4 months) and at each workshop the public has had an opportunity to receive information about and make comments on, each of the projects, including the Loomis NRCA.

In addition to the public workshops, DNR staff were available to meet with individuals and special interest groups individually. Most of these meetings occurred during the fall of 2001 through early Fall of 2002 and will continue until the Loomis State Forest Landscape Plan is updated. DNR staff met with representatives of groups (including site visits), public meetings, phone calls and attended group meetings. Meetings were held with the following groups, organizations and agencies:

- Backcountry Horsemen, Okanogan Chapter
- British Columbia Parks
- Butte Buster Snowmobile Club
- Cattlemen Association
- Colville Confederated Tribes
- Friends of the Loomis Forest
- Kettle Range Conservation Group
- Loomis Forest Action Committee
- Natural Resource Conservation Service
- Northwest Ecosystem Alliance

Okanogan County Citizens Coalition  
Okanogan County Commissioners  
Okanogan County Snowmobile Advisory Board  
Okanogan Resource Council  
Okanogan Public Utility District  
Washington Department of Fish and Wildlife  
White Stone Irrigation District  
US Forest Service  
US Fish and Wildlife Service  
Yakama Nation

The following is a general chronology of the establishment of the Loomis NRCA and the plan development process.

1998	Settlement Agreement identified two parcels for potential transfer from trust status. A First Memorandum of Clarification was signed at the end of the year and provided specific requirements concerning the designation and management of the parcels.
January 2000	Two parcels were transferred from trust status and designated as a conservation area. They are now called the Loomis NRCA.
April 2001 – August 2001	Internal pre-planning work.
Sept. 2001 – June 2002	Information gathering and preliminary development of the Loomis NRCA Fire Suppression Plan. Held four public workshops and several meetings with individual groups.
July 2002 – Nov. 2002	Development of the Loomis NRCA Management Plan. In November, the draft plan was made available for four weeks for public review and comment. Held the fifth public workshop and met with individual groups.
Dec. 2002 – Present	Incorporated comments from the public and prepared the draft plan for this formal SEPA review of the draft plan.

Thank you for taking the time to review the Draft Loomis NRCA Management Plan. Comments should be submitted to the DNR SEPA Center at [sepacenter@wadnr.gov](mailto:sepacenter@wadnr.gov) or PO Box 47015, Olympia, Washington 98504-7015 for distribution to the responsible official.

Sincerely,

Washington DNR Northeast Region and Natural Areas Program

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January 2003

SEPA

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LOOMIS

NATURAL RESOURCES CONSERVATION AREA

MANAGEMENT PLAN

Okanogan County

Washington

January, 2003

Washington Department of Natural Resources

Natural Areas Program

January 2003

## PREFACE

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This management plan fulfills requirements outlined in two legal documents (settlement agreement and memorandum of clarification) and the Natural Resources Conservation Areas (NRCA) Act, Chapter 79.71 RCW. It provides guidance for site-specific management of the Loomis NRCA.

Two parcels, now known as the north and south blocks of the Loomis NRCA, were transferred out of school trust status in January 2000 to fulfill part of the April 1998 Settlement Agreement between Northwest Ecosystem Alliance, Friends of Loomis Forest, The Mountaineers, Kettle Range Conservation Group, Washington Environmental Council and Gerald Henderson, and the Washington Board of Natural Resources.

A First Memorandum of Clarification (December 1998) followed the Settlement Agreement and specified that the parcels would remain in state ownership and be managed as a “conservation management area” under the Natural Resources Conservation Areas Act (RCW 79.71). Furthermore, the Memorandum of Clarification states that “a management plan for the Loomis NRCA will be developed under Chapter 79.71 RCW to coordinate conservation of the property’s natural ecological values with traditional agricultural management (cattle grazing) and recreation activities.”

# TABLE OF CONTENTS

<b>INTRODUCTION .....</b>	<b>1</b>
<i>A. The Department of Natural Resources .....</i>	<i>1</i>
<i>B. Site Location/Loomis State Forest.....</i>	<i>1</i>
<i>C. General Site Description .....</i>	<i>2</i>
<i>D. Management Policy and Legal Requirements .....</i>	<i>4</i>
<i>E. Purpose of this Plan.....</i>	<i>5</i>
<i>F. Relationship to Other Plans.....</i>	<i>5</i>
<i>G. Adjacent Land.....</i>	<i>10</i>
<i>H. Management Planning Process .....</i>	<i>12</i>
<b>MANAGEMENT GOALS .....</b>	<b>13</b>
<b>SITE CONDITION/DISCUSSION/MANAGEMENT ACTIONS .....</b>	<b>14</b>
<i>A. Physical Features and Conditions.....</i>	<i>14</i>
<i>B. Forest Zones and Plant Communities.....</i>	<i>19</i>
<i>C. Plant Species.....</i>	<i>32</i>
<i>D. Wildlife Habitat .....</i>	<i>36</i>
<i>E. Land Use.....</i>	<i>43</i>
<b>SECTION III: MANAGEMENT GUIDELINES.....</b>	<b>52</b>
<i>A. Sensitive Areas.....</i>	<i>52</i>
<i>B. Fire .....</i>	<i>55</i>
<i>C. Insects and Disease.....</i>	<i>55</i>
<i>D. Restoration.....</i>	<i>56</i>
<i>E. Public Use.....</i>	<i>56</i>
<i>F. Forestry Activities.....</i>	<i>59</i>
<i>G. Archaeological, Cultural and Historic Sites .....</i>	<i>60</i>
<i>H. Hunting.....</i>	<i>60</i>
<i>I. Roads .....</i>	<i>60</i>
<i>J. Regulation and Law Enforcement .....</i>	<i>60</i>
<i>K. Weeds.....</i>	<i>61</i>
<b>SECTION IV: IMPLEMENTATION .....</b>	<b>62</b>
<i>A. Summary of Management Actions .....</i>	<i>62</i>
<i>B. Summary of Monitoring and Research Needs .....</i>	<i>66</i>
<b>REFERENCES .....</b>	<b>67</b>

<b>APPENDICES.....</b>	<b>71</b>
<i>A. Legal Boundary Description.....</i>	<i>71</i>
<i>B. Bureau of Land Management Wilderness Study Area.....</i>	<i>73</i>
<i>C. Status Categories for Wildlife and Plants .....</i>	<i>74</i>
<i>D. Common and Scientific Names .....</i>	<i>79</i>
<i>E. Loomis NRCA Wildfire Suppression Plan.....</i>	<i>82</i>

January 2003

# INTRODUCTION

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## A. The Department of Natural Resources

The Loomis Natural Resources Conservation Area (NRCA) is one type of land designation managed by the Department of Natural Resources. The Department, led by the Commissioner of Public Lands, manages more than 3 million acres of state-owned trust forest, agricultural, range lands and commercial properties. These lands earn income to build schools, universities and other state institutions, and help fund local services in many counties. In addition to earning income, trust lands protect public resources such as water and habitat for native plant and wildlife species, and provide opportunities for public recreation and outdoor environmental education statewide.

Washington Natural Areas [Natural Resource Conservation Areas (NRCA) and Natural Area Preserves (NAP)] are managed for conservation purposes. They protect unique and threatened native ecosystems, and offer educational and research opportunities. NRCAs also provide opportunities for low-impact public use. Natural Areas make up less than 2% of the land managed by DNR.

### Natural Areas Program

Within DNR, the Natural Areas Program manages NAPs and NRCAs. Staff in region offices and at headquarters in Olympia work to maintain the features for which the natural areas were established and keep the sites in the best ecological condition possible. The Natural Areas Program manages 27 NRCAs (including the Loomis NRCA) and 47 NAPs throughout the state. Special features found in NAPs and NRCAs include: coastal rainforests, grasslands, salt marshes, Ponderosa pine forests, bogs, sagebrush communities, scenic vistas of the Columbia River, active nesting sites for bald eagle and peregrine falcons, and habitat for the basalt daisy, the Puget blue butterfly, Oregon spotted frog, Canada lynx and grizzly bear.

## B. Site Location/Loomis State Forest

The Loomis NRCA is part of the Loomis State Forest located west of Tonasket in Okanogan County, Washington (Loomis NRCA & Vicinity Map, Figure 1). The Loomis Forest includes three land designations: trust land, Natural Area Preserve and Natural Resources Conservation Area. While the Loomis NRCA has a specific designation that differentiates it from the Chopaka NAP and the Loomis State Forest, DNR is responsible for all three areas as a whole. Endangered species habitat, late successional forest, public use and resource protection may be analyzed or coordinated across the Loomis Forest as a whole while site-specific management activities follow the goals and objectives outlined in the associated management plan.

40 The Loomis NRCA consists of two parcels; the north block is located in Township 40 North,  
41 Range 24 East, W.M. and the south block is located in Townships 37 & 38 North, Ranges 23  
42 & 24 East, W.M. (see Appendix A for a complete legal description). The two Loomis NRCA  
43 parcels are surrounded by public land: national forest, Bureau of Land Management, state  
44 forest, state natural area preserve and a protected area in Canada.

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## 47 **C.General Site Description**

48 The Loomis NRCA is one of the largest NRCAs in the state. It covers approximately 24,700  
49 acres (14,000 acres in the north block, 10,700 in the south block). The Loomis NRCA  
50 includes mountains draped with vast forests of lodgepole pine and valleys with wet meadow  
51 and streams. Other types of vegetation include Engelmann spruce, quaking aspen, Douglas  
52 fir and, mid-elevation and alpine meadows. Fire rejuvenates the lodgepole forests and is  
53 most frequent in the dry summer months. Most of the precipitation occurs in the winter  
54 months as snow. Past natural fire events created thousands of acres of even-aged lodgepole  
55 forests including the forests within the NRCA. As a result, acres of trees aged at the same  
56 time and became host trees to native bark beetles. The next step in the natural process is for  
57 fire to consume the dead and dying trees, and release the seeds from lodgepole cones.  
58 However, current law mandates the suppression of all uncontrolled fires.

59 Species of special concern include twelve plant species and nine wildlife species (grizzly  
60 bear, Canada lynx, gray wolf, wolverine, northern goshawk and four butterfly species) ranked  
61 as critically imperiled, vulnerable to extinction or rare in Washington State. Habitat for these  
62 species exists within the NRCA. Areas of specific sensitivity include meadows, wetlands,  
63 riparian areas, aspen forests, talus subalpine cirque basins and subalpine/alpine meadows.

64 The Loomis Forest area was first known by Native American tribes now represented by the  
65 Colville Confederated Tribes and the Upper Similkameen Indian Band. During and after  
66 European settlement the area that is now the Loomis NRCA was used by trappers and,  
67 sheep and cattle herders. Present day uses include cattle grazing, hunting, recreational  
68 equestrian use, hiking, snowmobiling, snow-shoeing and cross-country skiing.

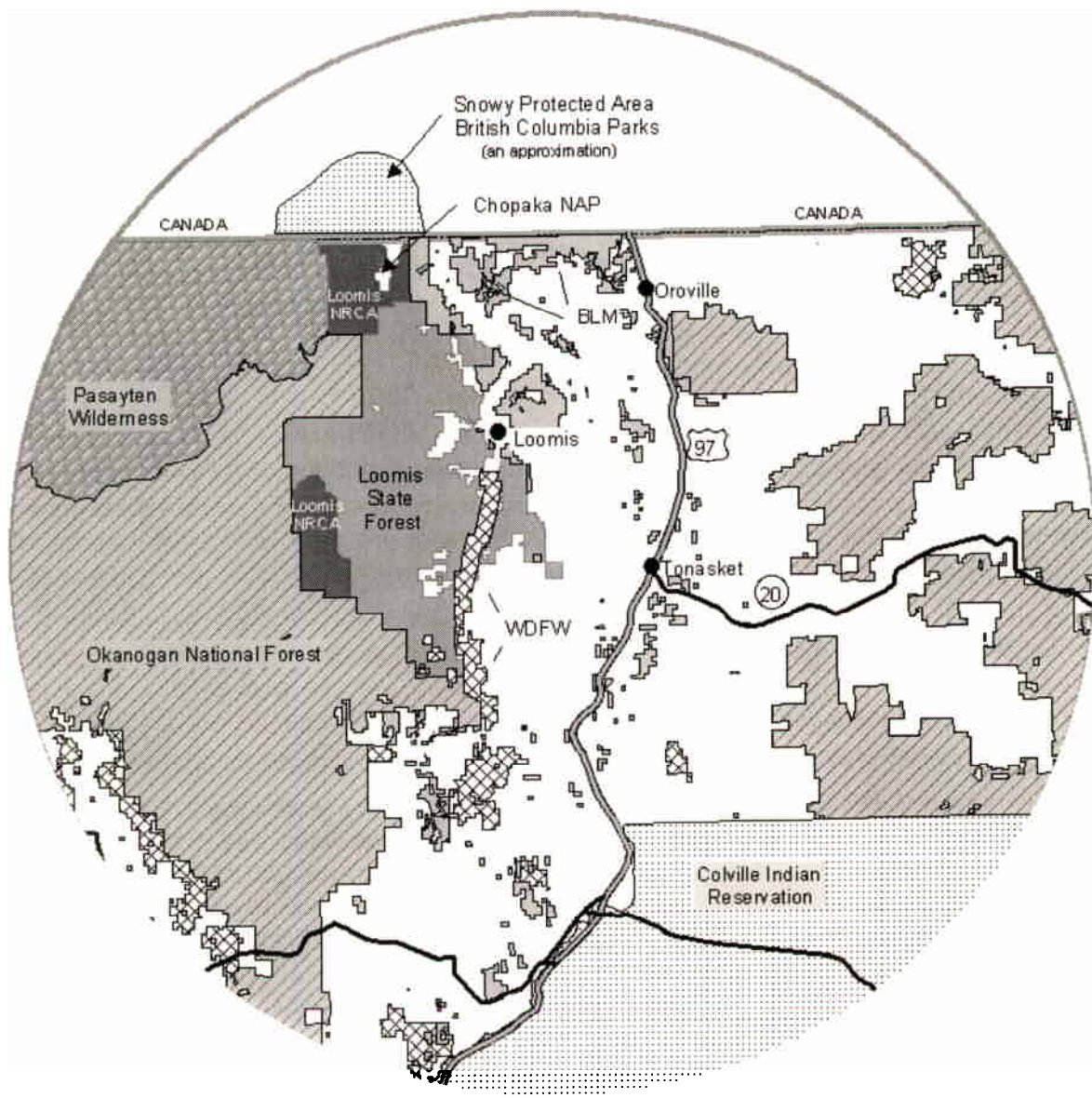
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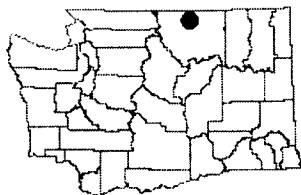


Figure 1. Loomis NRCA and Vicinity

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Okanogan County



BLM - Bureau of Land Management  
WDFW - Washington Department of Fish and Wildlife

Loomis NRCA Management Plan  
January 2003

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## D.Management Policy and Legal Requirements

The land transfer of the Loomis NRCA was directed by the April 1998 Settlement Agreement between the Board of Natural Resources and the Northwest Ecosystem Alliance, et al. and the First Memorandum of Clarification dated December 16, 1998. The Settlement Agreement specified the two parcels to be transferred out of Common School Trust and the Memorandum of Clarification specified that the parcels would be managed by the state under the Natural Resources Conservation Areas Act.

### First Memorandum of Clarification

The following clarifications, related to land management, were made to the initial Settlement Agreement dated April 7<sup>th</sup>, 1998.

- The specific boundaries of land transferred from trust status to NRCA will not be subject to expansion nor extend beyond or outside of the boundaries established at the time of the land transfer.
- The ecological significance of the transferred parcels will be protected and the parcels will be managed to prohibit commercial logging and non-emergency road building and, to allow low-impact public use and agricultural activities to continue.
- Following the land transfer, a management plan for the two parcels will be developed under RCW 79.71 (NRCA Act) to coordinate conservation of the natural ecological values with traditional agricultural management and recreational activities. Broad based public participation will be solicited in the development of the management plan.
- The primary purpose for the land transfer was to maintain the land in the most natural condition possible to provide habitat for native wildlife, including wildlife requiring roadless areas, and wilderness recreational opportunities.
- Grazing activities on the transferred parcels permitted by valid grazing leases and permits (five permit ranges overlap with the NRCA) encompassing the parcels, including renewals and extensions will be unaffected by the land transfer and will be allowed to continue, provided, however, that such grazing activities remain in compliance with the "Ecosystem Standards for State-Owned Agricultural and Grazing Lands"(HB 1309), are in compliance with the specific Coordinated Resource Management plan (CRMP) developed for each permit range located within the NRCA, are in good standing with the leasing and permit requirements, and are in full compliance with the Settlement Agreement.
- Existing, traditional and appropriate low-impact recreation uses, including snowmobile, and equine activities, will continue on the parcels. The management plan will identify existing snowmobile, equine, and hiking trails for continued public use.

### Natural Resources Conservation Areas (NRCA) Act

In the late 1980s, the Washington State Legislature found an increasing and continuing need by the people of Washington for certain areas of the state to be conserved, in rural as well as urban settings, for the benefit of present and future generations. Consequently, the Washington State NRCA Act, Chapter 79.71 of the Revised Code of Washington (RCW), was

enacted in 1987. To be considered for NRCA designation, land and/or water should have important ecological, geological, cultural or scenic characteristics and opportunities for low-impact public use and outdoor environmental education.

The Statewide Management Plan for NRCAs provides guidance for the management of and plan development for NRCAs. The primary purpose of NRCAs is to protect ecological systems, habitat, and scenic landscapes, thus natural resource-oriented purposes have priority over public-oriented purposes such as: low-impact recreation and environmental education (hiking, nature study, photography, picnicking, interpretive tours, scientific research etc.).

The Loomis NRCA is managed under the NRCA Act, however it is unique in that snowmobiling, equestrian activities and cattle grazing are permitted uses and will continue on the site. These uses are permitted in order to meet requirements developed specifically for the Loomis NRCA and "in no event shall these uses on the Property (the NRCA) be deemed a precedent for allowing similar uses in other NRCAs (First Memorandum of Clarification 1998)." To the extent possible, while maintaining traditional public use, natural resource-oriented purposes will be given priority over the public-oriented purposes.

NRCA management goals include:

- Maintain, enhance or restore ecological systems, including but not limited to aquatic, coastal, montane, and geological systems, whether such systems are unique or typical to Washington state;
- Maintain exceptional scenic landscapes;
- Maintain habitat for threatened, endangered, and sensitive species; and
- Provide opportunities for low-impact public use, scientific research and outdoor environmental education.

## E. Purpose of this Plan

The purpose of this plan is to coordinate conservation of the property's natural ecological values with traditional uses. This plan is intended to guide management activities for both blocks of the Loomis NRCA. Several other plans play an important role in the management of the Loomis NRCA and rather than reiterate those plans, this plan should be used in conjunction with them. See the following section for a list and description of related plans.

DNR will implement the management recommendations as funding becomes available. Furthermore, budget requests for maintenance, monitoring and operations will be based on the objectives and actions of this plan.

## F. Relationship to Other Plans

### DNR Loomis State Forest Landscape Plan (1996)

The Loomis Forest Landscape Plan (DNR 1996) was developed to manage forest resources (timber, water, wildlife habitat etc.) for trust land. It will be updated so that it

is consistent with this plan. The Landscape Plan is designed to ensure long term productivity of trust assets while addressing a range of environmental and public use resources to the extent that their protection is consistent with the department's trust obligations. Resources covered in the Landscape Plan include: air, archaeological and historical elements, fish, grazing land, mineral, recreation areas, soil, timber, water and wildlife.

Many of the resources addressed in the Loomis Landscape Plan are managed across the three land designations of the Loomis Forest. DNR is held accountable for all lands that it manages and cannot legally differentiate between land designations when considering regulatory actions, cumulative impacts, and habitat needs for listed species. As a result, habitat analysis and delineation, such as mapping lynx habitat and late successional forest, may be performed across the Loomis Forest as a whole, while management activities follow management plans associated with individual land designations.

### **DNR Resource Management Plans for Permit Ranges (2002)**

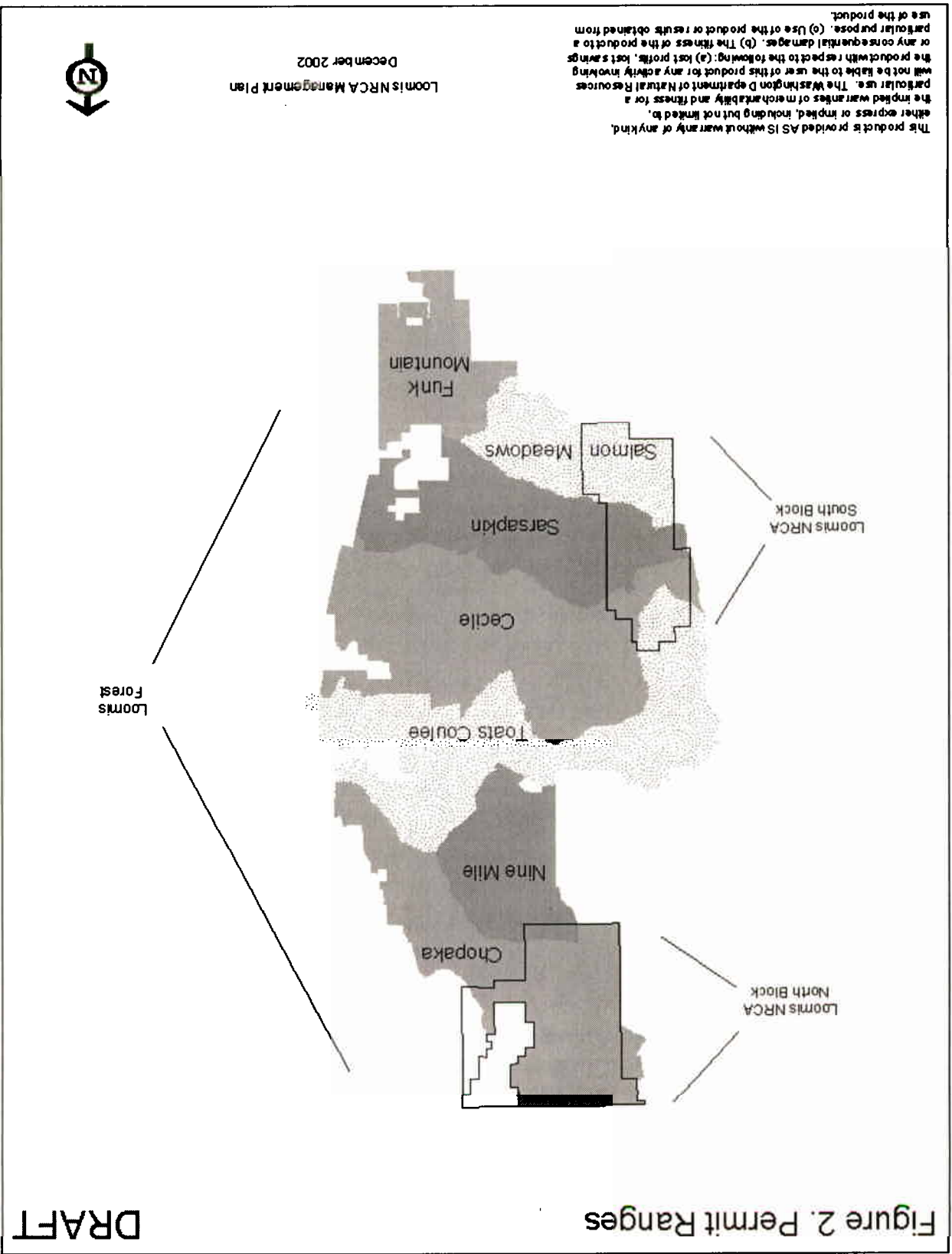
Five permit ranges (Chopaka, Toats Coulee, Cecile, Sarsapkin and, Salmon Meadows) overlap with the NRCA (Figure 2. Permit Ranges). Each permit range has a Resource Management Plan that describes the management objectives and practices used to implement livestock grazing.

In 1993 the legislature passed HB1309 which directed the Department of Fish and Wildlife to develop goals for the wildlife and fish that the agency manages, to preserve, protect, and perpetuate wildlife and fish on shrub steppe habitat, or grazeable woodlands (excerpt from HB1309). A technical committee under the guidance of the Washington State Conservation Committee was charged with developing standards (HB 1309 Ecosystem Standards for State-owned Agricultural and Grazing Land) to achieve the goals developed by the Department of Fish and Wildlife. Both Washington Departments of Fish and Wildlife, and Natural Resources are required to implement practices to meet the Ecosystem Standards. Twenty-five Ecosystem Standards were developed and each one describes a desired ecological condition and includes a strategy, a rationale/discussion section and possible management practices.

As land managers, DNR staff work with permit holders to incorporate best management practices into the Resource Management Plans for Permit Ranges to meet the HB1309 Ecosystem Standards. The Resource Management Plans cover the whole permit range regardless of land designation, thus this plan (Loomis NRCA Plan) does not include specific range management practices. Instead, Natural Areas staff participate in the development of the Resource Management Plans.

Range permits are renewed through a collaborative process between the permit holder, DNR trust land managers and Natural Areas Program staff, and the Natural Resources Conservation Service. As a result, the Resource Management Plans will serve as the primary management document for grazing activity in the Loomis NRCA.





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## **DNR Modified Lynx Habitat Management Plan (June 2002)**

Canada lynx was listed as threatened in the state of Washington in October 1993 by the Washington State Wildlife Commission. In April 2000 Canada lynx was listed as threatened by the U.S. Fish and Wildlife Service (USFWS). DNR manages land in each of the six Lynx Management Zones defined by the Washington Department of Fish and Wildlife. The Okanogan Lynx Management Zone is the largest zone. Three Lynx Analysis Units (LAUs) overlap with the Loomis Forest and the Loomis NRCA (Figure 3, Lynx Analysis Units).

DNR developed the Lynx Habitat Management Plan in 1996, in collaboration with WA Department of Fish and Wildlife, to respond to the state listing of the species. In May 2002 DNR modified the Lynx Habitat Management Plan to incorporate additional mitigation measures agreed to by the USFWS (Martin, April 26, 2002). These measures are intended to help ensure compliance with the Endangered Species Act.

The original Lynx Plan outlines DNR's commitment to incorporate lynx habitat associations into its timber management plans and was written prior to the designation of the Loomis NRCA. The newly designated Loomis NRCA will continue to play a role in the implementation of the Modified Lynx Habitat Management Plan. The Modified Lynx Habitat Management Plan, along with any subsequent changes to the Plan that are needed to incorporate new research for protection of the lynx, will remain the primary management document to guide lynx habitat management within the NRCA.

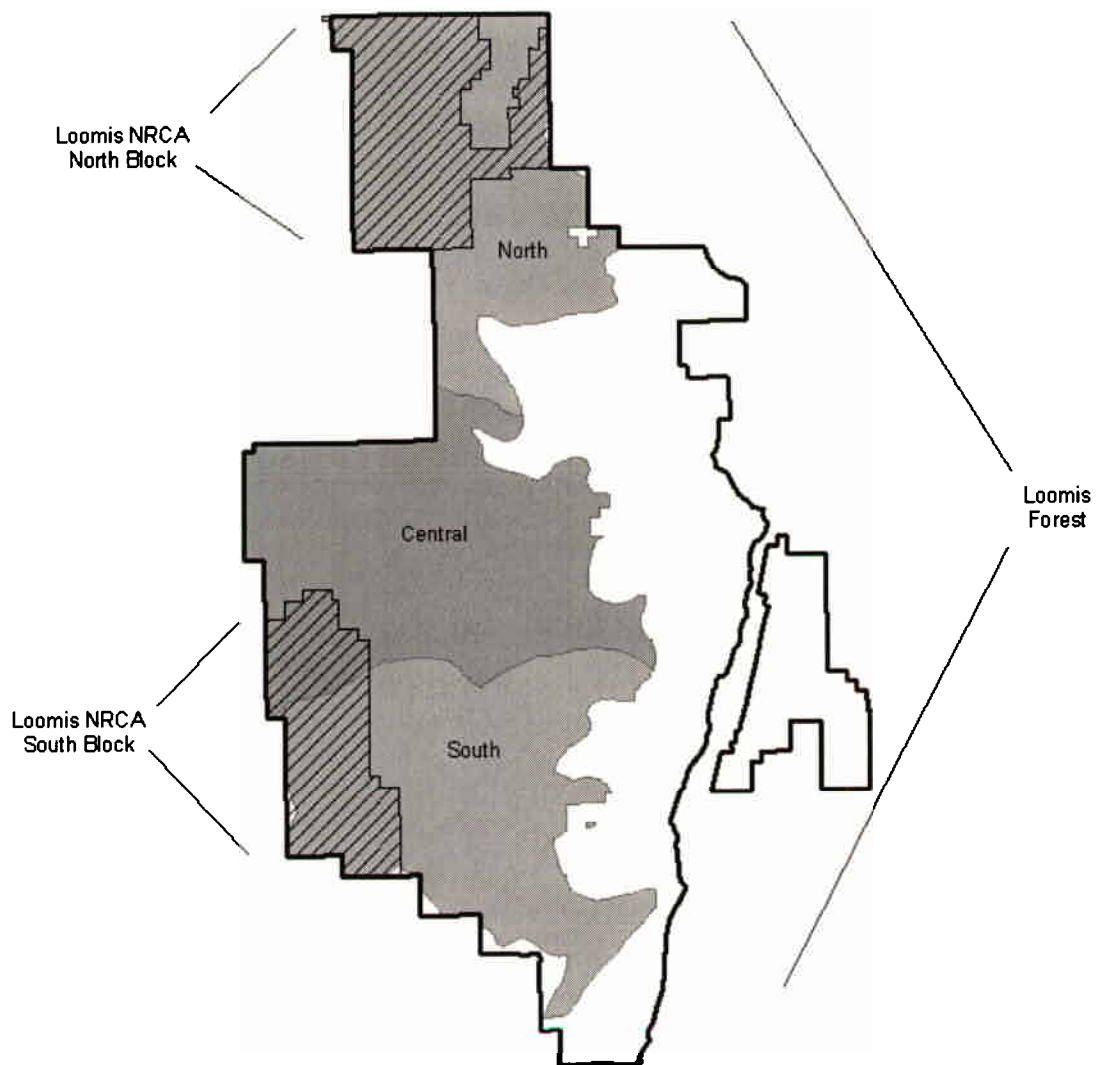
## **Federal Grizzly Bear Recovery Plan (1993)**

The grizzly bear is listed by the federal government as threatened in the state of Washington (US Fish and Wildlife Service 1993) and by the state as endangered (WA Department of Fish and Wildlife 2002). The Grizzly Bear Recovery Plan written by the U.S. Fish and Wildlife Service in 1993 guides grizzly bear recovery. The recovery plan delineates six Recovery Ecosystems, of which the North Cascades Grizzly Bear Ecosystem is the second largest and includes the Loomis NRCA. A supplemental chapter was developed to specifically address grizzly bear recovery in the North Cascades and was added to the Grizzly Bear Recovery Plan in 1997.

Washington's portion of the North Cascades Grizzly Bear Ecosystem is subdivided into 54 Bear Management Units (BMUs) and the Loomis NRCA is located in the Upper Toats BMU. Thus, the Grizzly Bear Recovery Plan will guide the management of grizzly bear habitat within the Loomis NRCA (US Fish and Wildlife Service 1993).

Figure 3. Lynx Analysis Units (LAUs)

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Loomis NRCA Management Plan  
January 2003



## **G. Adjacent Land**

The Loomis NRCA is surrounded by forested public land (Loomis NRCA and Vicinity Map, Figure 1). Management of the adjacent land and related plans are described below.

### **Common School Trust Land, DNR**

The largest land designation within the Loomis State Forest is managed to produce revenue for the Common School Trust. Timber is harvested according to the Loomis State Forest landscape Plan (1996). The plan describes a transition from current conditions to desired future conditions and includes objectives for producing revenue from timber harvest.

General objectives include:

- To generate long-term income for the trust beneficiaries, given the legal, biological, and social constraints within which the forest must be managed.
- To create and maintain healthy, productive forest resources.
- To provide habitat that is capable of supporting healthy populations of native fish and wildlife.
- To provide recreational and other public benefits, consistent with trust obligations.

### **Chopaka Natural Area Preserve, DNR**

The Chopaka NAP is nearly surrounded by the north block of the Loomis NRCA. The guiding principle for managing the Chopaka Natural Area Preserve (NAP) is to permit ecological and physical processes to predominate, while controlling activities that directly or indirectly modify them. The overall vision for the NAP is to protect natural diversity and maintain the site in the best condition possible for research and education. As a result access is limited to uses related to research and education.

#### **DNR Chopaka NAP Management Plan (2002)**

The NAP differs from the Loomis NRCA in that it offers a higher level of protection and is managed specifically for scientific research and education. Information regarding the NAP should be included on NRCA information signs to alert visitors of the sensitivity of the NAP. Additionally, the Chopaka Management Plan identified a specific need to enhance the visibility of the NAP boundary along the Disappointment Creek Trail (formerly known as the Jeep Trail) especially in winter months.

### **Snowy Protected Area, Canada Ministry of Forests**

The northern boundary of the Loomis NRCA is adjacent to the Snowy Mountain Protected Area in Canada. Protected Areas are very similar to Washington State NRCAs in land management emphasis, in that they are managed to allow the site to exist in the most natural condition possible while providing opportunities for low-impact recreation and outdoor environmental education. The majority of public use occurs in the northern part of the protected area and is oriented away from the NRCA.



272 The Snowy Protected Area protects a wide range of vegetation and wildlife from dry  
273 grassland valleys to extensive alpine meadows and supports a provincially significant herd of  
274 California bighorn sheep (B.C. Parks).

275

## 276 **Okanogan National Forest, US Department of Agriculture Forest Service**

277 The Okanogan National Forest covers approximately 1,706,000 acres and includes two  
278 Wilderness Areas: The Pasayten and the Lake Chelan-Sawtooth. The area is famous for its  
279 mule deer herds and sports fisheries. It has numerous small campgrounds and  
280 approximately 1,600 miles of trails making it a popular place for cross-country skiing,  
281 snowmobiling, hiking, mountain biking and horseback riding (USDA Forest Service).

282 The Pasayten Wilderness is adjacent to the western boundary of the north block and is  
283 closed to motorized and mechanized use. A valid federal grazing permit overlaps with the  
284 Wilderness Area and also is adjacent to the Chopaka Permit Range in the north block of the  
285 NRCA. Horseback riding is permitted in the Pasayten Wilderness Area and it is common for  
286 equestrians to ride between the Wilderness Area and the NRCA. Snowmobiles however, are  
287 not permitted in the Wilderness Area. Fire is recognized as an important element in  
288 maintaining the natural ecosystem in the Wilderness Area and the Pasayten Wilderness Area  
289 Fire Plan focuses on managing natural fire rather than immediate suppression. DNR is  
290 required to suppress uncontrolled fires thus DNR staff will continue to work with the Forest  
291 Service to coordinate fire suppression response and tactics.

292 USFS lands adjacent to the south block have a specific set of guidelines for winter motorized  
293 vehicle use. DNR will continue to coordinate with USFS to manage winter use across  
294 administrative boundaries.

295

## 296 **Chopaka Mountain Wilderness Study Area, Bureau of Land Management** 297 **(BLM)**

298 Approximately 3½ miles of the east boundary of the north block is adjacent to land managed  
299 by BLM. The remote area, known as the Chopaka Mountain Wilderness Study Area consists  
300 of cliffs and talus sloping away from the Loomis NRCA and based on its wilderness  
301 characteristics, was reviewed in 1982 to determine if it is a suitable site for preservation as  
302 wilderness. To date, Congress has not acted on public lands reviewed for wilderness  
303 characteristics and in the meantime, the Secretary of the Interior must manage the Chopaka  
304 Mountain Wilderness Study Area in a manner that will not impair the area's suitability for  
305 preservation as wilderness (BLM 1982).

306 The Chopaka Mountain Wilderness Study (BLM 1982) identifies a preferred alternative based  
307 on the concept that the site is not suitable for wilderness designation. However, most of the  
308 site would be designated as an area of critical environmental concern<sup>1</sup> and managed to  
309 enhance mountain goat habitat. A Research Natural Area in the upper part of the Anderson  
310 Creek drainage would be designated to protect a representative whitebark pine-subalpine fir

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<sup>1</sup> Areas of Critical Environmental Concern is defined by the Federal Land Policy and Management Act as an area within the public lands where special management attention is required to protect and prevent irreparable damage to important historic, cultural, or scenic values, fish and wildlife resources or other natural systems or processes, or to protect life and safety from natural hazards.)

311 forest and plants proposed for or listed as threatened or endangered in the state of  
312 Washington (see Appendix B for species list) (BLM 1982).

313 Livestock grazing would continue with adjustments made based on monitoring vegetative  
314 condition and trend. The area would also be open for hunting, camping, hiking and other  
315 recreation activities that would not result in unnecessary or undue degradation of the  
316 environment. Timber may be harvested on 385 acres (7% of the site) located in the central  
317 part of the site along the east boundary.

318

## 319 **H.Management Planning Process**

320 The department held an Open House public meeting in September 2001 at the Tonasket  
321 High School to kick-off the planning process for five planning projects. Additional public  
322 workshops were held in December 2001, March, June and October 2002 to solicit comments  
323 and to keep people informed of the process. DNR staff also met with individuals and interest  
324 groups to discuss issues and concerns.

325 The plan identifies significant resources to be conserved and addresses long-term  
326 maintenance, enhancement and restoration of those resources including habitat for  
327 threatened, endangered and sensitive species. In addition, sensitive areas were identified  
328 and mapped. Public use areas were also identified and mapped. Guidelines were developed  
329 to guide future management decisions and a detailed plan for fire suppression is included in  
330 the appendix. The Fire Suppression Plan is designed to serve as a separate document.

331

### 332 **SEPA**

333 The State Environmental Policy Act (SEPA) Chapter 43.21 RCW requires governmental  
334 agencies to consider the environmental impact of a proposal (a management plan in this  
335 case) before making a decision on the proposal. Comments were collected beginning in  
336 September 2001. A preliminary draft of this plan was circulated for public review in the fall of  
337 2002.

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## MANAGEMENT GOALS

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The following management goals were developed using the First Memorandum of Clarification, the NRCA Act, and comments gathered during the scoping period.

- **Coordinate conservation of natural ecological values with outdoor environmental education, low-impact public use, snowmobile use, equestrian activities and livestock grazing** (First Memorandum of Clarification).
- **Maintain the parcels in the most natural condition possible**(First Memorandum of Clarification).
- **Protect examples of native ecosystems, habitat for threatened, endangered, and sensitive plants and wildlife, geologic features and scenic areas, and cultural resources** (NRCA Act).
- **Comply with, the “Ecosystem Standards for State Owned Agricultural and Grazing Lands” and, the resource management plans developed for permit ranges located in the Loomis NRCA** (First Memorandum of Clarification).

# SITE CONDITION/DISCUSSION/MANAGEMENT ACTIONS

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The following information was collected from existing reports, maps, databases, people familiar with the site and from site visits.

This section provides some basic information about the site and describes important biological features, natural processes and public use patterns. Most sections include a brief discussion of management issues followed by management actions designed to achieve the management goals of the NRCA.

Plant and wildlife information was gathered from agency biologists, the Natural Heritage database, Washington Department of Fish and Wildlife databases and past inventories of the Loomis Forest. Federal and state designations and, global and state ranks were examined to determine species rarity and degree of threat to its continued existence. Rare species that are highly threatened are addressed in this plan. See Appendix C for more information regarding federal and state status categories and, the global and state ranking system.

## A. Physical Features and Conditions

This section provides general site information and does not include discussion or management objectives.

### Geology

#### *North Block*

Geologic bedrock in the north block is comprised primarily of light-colored, crystalline, granitic rocks that have been assigned to three units. These include granodiorite and quartz monzonite of the Jurassic-age, Similkameen Pluton, possibly older but similar, light-colored crystalline igneous granitic rocks of the Loomis Pluton, and Tillman Mountain tonalitic orthogneiss. Orthogneiss is a metamorphic rock that started as an igneous rock but was subsequently metamorphosed through heat and or pressure changes. The Loomis Pluton and the Tillman Mountain tonalitic orthogneiss have been assigned a Triassic to Jurassic age and may predate the rocks of the Similkameen Pluton.

Nested or faulted to a position within this extensive package of granitic rocks are several smaller occurrences of older (pre-Jurassic) undifferentiated, high-grade metamorphic rocks and a suite of unusual rock types that have been assigned to the Chopaka intrusive complex including metagabbro and ultrabasic rocks.

The recognition and naming of many of these units comes from detailed geologic mapping of this part of the Okanogan range by Hibbard (1971), Rinehart (1981), and Rinehart and Fox (1972). DNR has published compilation geologic maps of the area at 1:100,000-scale (Stoffel 1990), and at a scale of 1:250,000 (Stoffel et al. 1991).

402 *South Block*

403 The south block of the NRCA is also primarily underlain by Mesozoic (Triassic-Jurassic) and  
404 younger Cretaceous igneous intrusive rocks. These units locally display metamorphic fabrics  
405 (foliation) or exist in packages of mixed igneous and metamorphic rocks. These igneous and  
406 metamorphic units are intruded to the east by a large pile of younger, Eocene-age volcanic  
407 and sedimentary rocks.

408

409 *Glacier Activity*

410 All of the bedrock units in the NRCA were extensively modified during the Pleistocene ice age  
411 when a continental glacial ice sheet blanketed much of North America. The maximum extent  
412 of the ice advance reached limits approximately 70 miles to the south of the NRCA. This  
413 continental glacial activity, along with local alpine glacial effects, has modified and shaped  
414 topography, including the removal of soils (unconsolidated material), and deposition of a  
415 variable mantle of glacially derived sediments throughout much of the NRCA.

416

417 *Plate Tectonics*

418 Speculation on the tectonic setting of the Okanogan range that underlies much of the NRCA  
419 has led to some interesting theories. Some authors have suggested that this area was  
420 derived in a series of Paleozoic and Mesozoic volcanic archipelagos. These landforms were  
421 then accreted onto the North American continent during the Late Triassic or Early Jurassic.  
422 Peripheral to or within these large blocks that docked with the continent were subsiding  
423 oceanic basins where exotic marine and volcanic terranes were developed. These  
424 eugeoclinal rocks were similarly scraped onto the continent or were pushed great distances  
425 inland along thrust faults. Volcanic activity (plutonism) and regional metamorphism  
426 accompanied accretion and persisted into the Late Cretaceous. Intrusion of plutonic rocks  
427 and deposition of sedimentary and volcanic rocks occurred during Late Cretaceous time and  
428 into Early Tertiary when tectonic forces are believed to have shifted from compression to  
429 regional extension. This theory is built upon geologic conditions that are represented in part  
430 by bedrock found in the NRCA as well as its position and relationship to adjacent rocks.

431

432 **Minerals**

433 All oils, gases, coals, ores, minerals, and fossils were retained for the Common School Trust  
434 as provided under RCW 79.01.224. The Loomis NRCA does not include any mining claims  
435 or prospecting leases.

436

437 **Soils**

438 Soils within the Loomis NRCA lie outside those areas mapped and described in the July 1980  
439 Soil Survey of Okanogan County Area, Washington published by the United States  
440 Department of Agriculture, Soil Conservation Service (SCS). Site-specific soils within the  
441 NRCA are described in the Washington State Department of Natural Resources (DNR)  
442 Geographic Information System (GIS).

443 In general terms, soils within the NRCA are typically deep to very shallow, mostly forest soils  
444 and rock outcrop on mountainous uplands. Soil mapping units consist of various specific soil

phases within a variety of soil series. In some cases, multiple soil series characterize a given area. More developed soils occur on the flatter benches and terraces. These soils have formed in a mantle of volcanic ash and wind-blown silt (loess), overlying glacial deposits that overlie fresh to moderately decomposed granitic bedrock. Bare rock outcrop and regolith covered hillsides characterize the steeper gradient slopes and may include local accumulations of colluvium. Granitic intrusive igneous bedrock of the Okanogan range comprises much of this portion of northeast Washington, however smaller areas are comprised of more mafic-rich (iron/magnesium-bearing) igneous bedrock units (granodiorite to gabbro) and areas of heterogeneous metamorphic rocks.

## **Topography**

The Loomis NRCA is part of the Okanogan Highlands located on the east slopes of the Cascade Mountain Range. The entire area was overridden by the continental ice sheet during the Pleistocene ice age with the possible exception of Chopaka Mountain (7,881 feet). Chopaka may have extended above the estimated elevation of the top of the ice at approximately 7000 feet. These islands of land that lay above the top of the ice sheet are called nunataks. On Chopaka, unique flora and nunatak soils are protected in part by a DNR Natural Area Preserve.

Glacial modifications include rounded mountaintops, U-shaped valleys, glacial outwash terraces and lateral moraines. The north block is mountainous and includes Disappointment Peak (7,146 feet) and Snowshoe Mountain (7,823 feet). These mountains drain into creeks that leave the NRCA at an elevation of approximately 4,800 feet. Most the area drains to the south into the North Fork of Toats Coulee Creek and a small portion of the area drains north into Canada.

The south block includes several peaks that border the area and several creeks that drain into either Sinlahekin or Toats Coulee Creeks. The elevation ranges from approximately 7,000 feet to a low of 1,600 feet. The topography in the south block is similar to that of the north block.

## **Climate**

The NRCAs are located on the eastside of the Cascade Mountains where the climate is warm and dry in the summer. Winters are cold and bring snow. Average annual precipitation in the two NRCA parcels is between 18 and 40 inches. Average yearly snowfall varies with elevation, but average up to approximately 100 inches at the highest elevations and represents the majority of the precipitation. Winters are cold and long with frost coming any month of the year and the ground is frozen from October to May with variations due to north or south aspect. Summers are short and dry with frequent electrical storms.

Winds are predominantly from the southwest or west most of the year, with periods of more northerly flow during the summer. Occasionally, strong winds develop from the east. Severe fire events throughout much of the Pacific Northwest are often associated with strong northerly winds or east winds during summer months.

487 **Hydrology**

488 The Loomis NRCA falls within three watershed analysis units (WAUs): North Fork Toats  
489 Coulee, South Fork Toats Coulee and Sinlahekin Creek (Figure 4, Watershed Analysis  
490 Units). The North Block drains mostly to the south into the North Fork Toats Coulee Creek;  
491 one (un-named) creek drains to the north into Canada. Headwater creeks include: Deer  
492 Park Creek, Little Horseshoe Creek, Snowshoe Creek, Olallie Creek, Swamp Creek,  
493 Disappointment Creek and Corduroy Creek.

494 The north half of the south block drains into the South Fork Toats Coulee and includes South  
495 Fork Toats Coulee Creek. The south half of the south block drains into Sinlahekin Creek and  
496 includes Lone Frank Creek and the headwaters of Timothy Creek.

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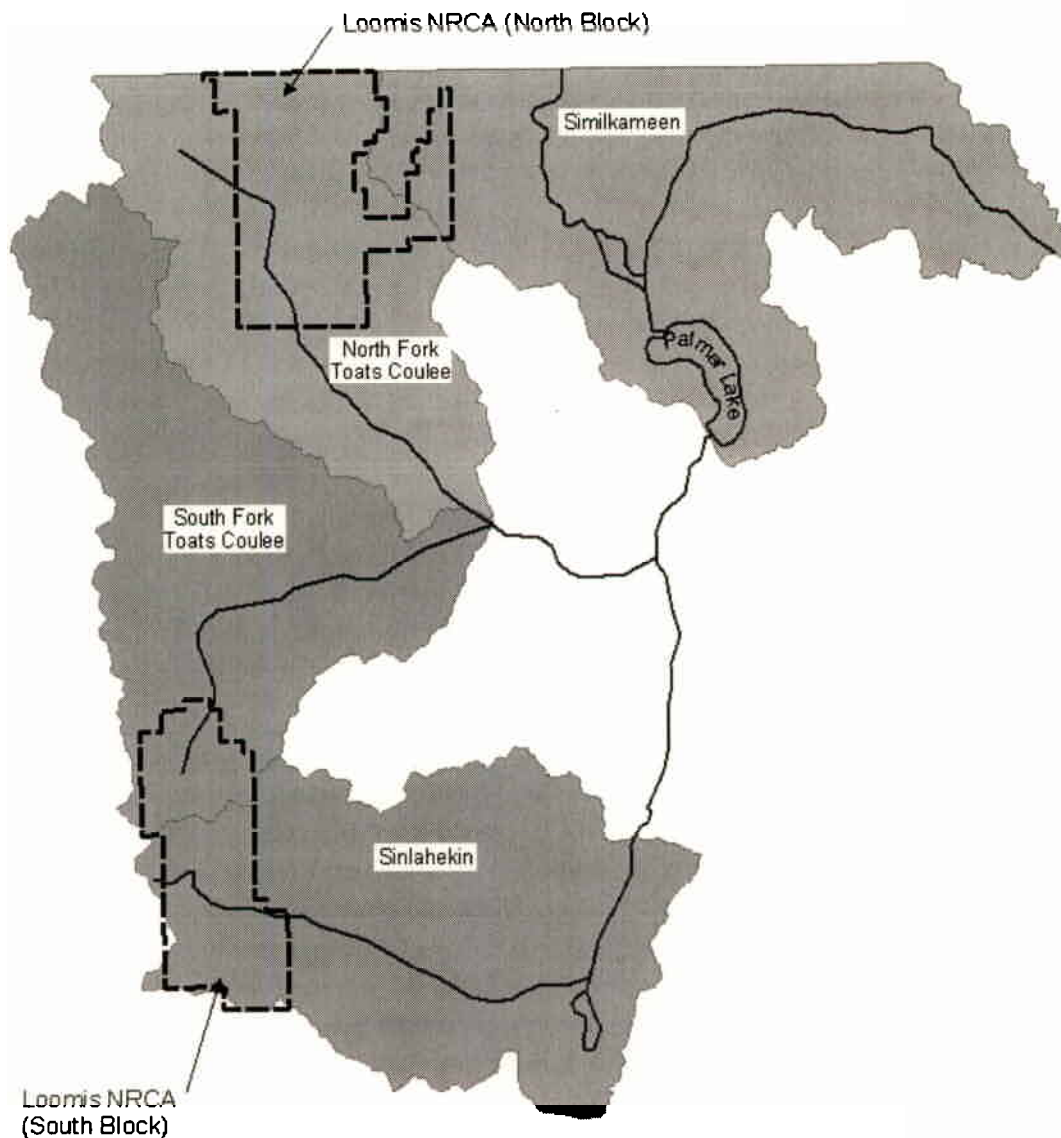
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**Figure 4. Watershed Analysis Units (WAUs) DRAFT**



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Loomis NRCA Management Plan  
January 2003





## B.Forest Zones and Plant Communities

The following forest zones and plant communities are located within the NRCA: subalpine fir, Douglas fir, quaking aspen, wetland and riparian areas (herbaceous/shrub and montane coniferous), shrub-steppe, subalpine/alpine grassland and shrubland, and rock/talus. Harvested areas are also included (Figures 5 and 6, Vegetation). These zones and communities are defined primarily by elevation, aspect, and moisture conditions. The vegetation maps (Figures 5 and 6) of these zones and communities were developed using data from Forest Resource Inventory (FRIS) plots, aerial photograph interpretation, and spot field investigations. Descriptions are based on Franklin and Dyrness (1973), Lillybridge et al (1995), and field investigations made by DNR staff. Only some portions of the vegetation map have been ground-truthed, therefore it is inevitable that the map contains errors. Future ground-truthing will attempt to refine the vegetation map. Common names are used throughout this plan and scientific names are provided in Appendix D.

### Subalpine Fir Zone

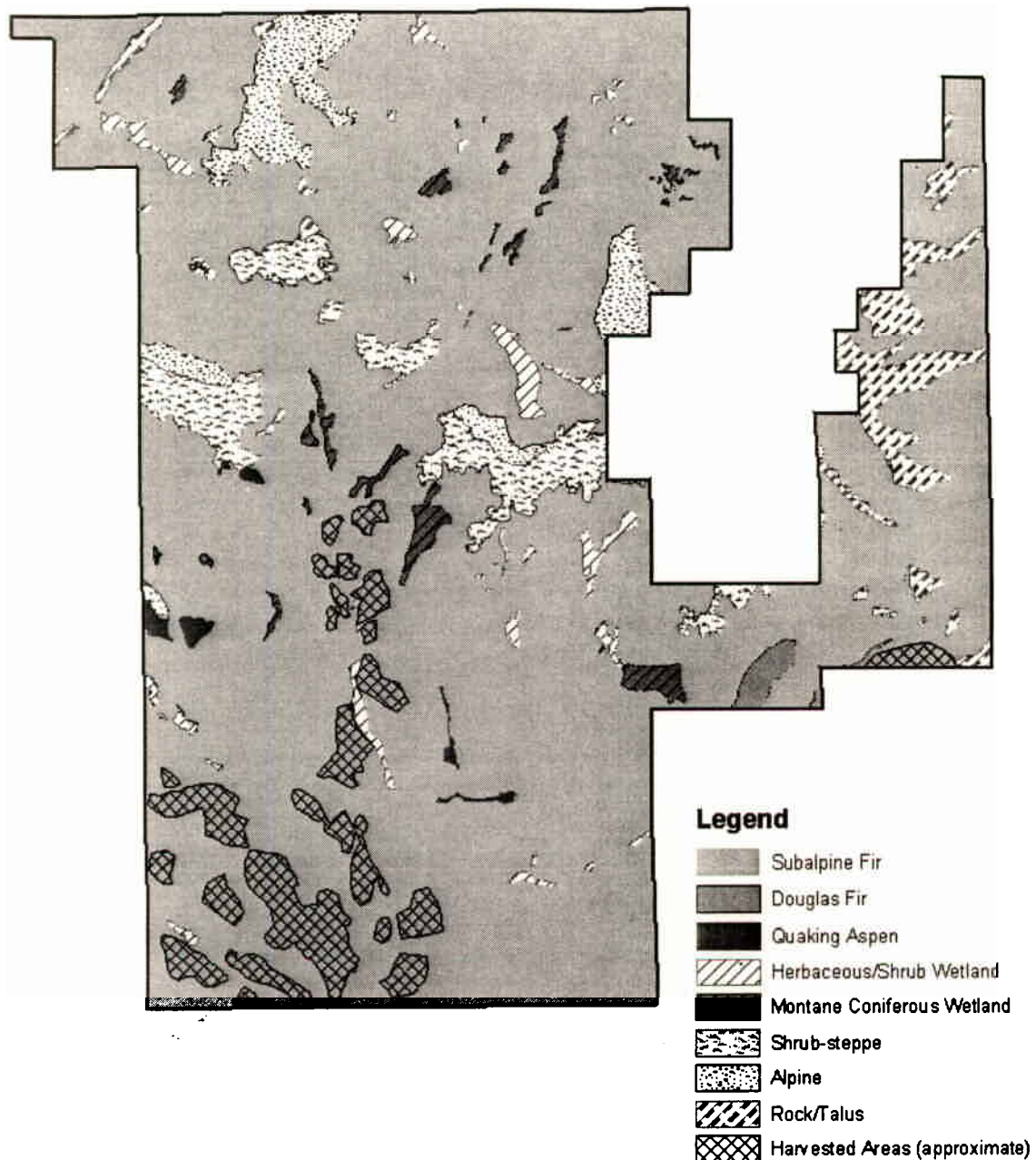
Vegetation throughout the NRCA consists primarily of subalpine forest types, with lodgepole pine the dominant tree in most areas. In general, the subalpine fir zone forests in the Loomis NRCA are typical of late-seral forests maintained by fire in the Okanogan region. Seral forests contain species (lodgepole pine in this case) that generally do not reproduce in their own shade or without some form of disturbance. High elevation lodgepole pine stands are dependant on fire for regeneration. When fire is suppressed, lodgepole pine trees age and die allowing climax species such as Engelmann spruce and sub-alpine fir to gradually colonize under the shade of the undisturbed seral species and eventually become the prominent species with a different forest structure. Other tree species often found in this zone include Douglas-fir, western larch, and whitebark pine. Lodgepole pine trees 80-120 years old become host to the mountain pine beetle, a native insect (Russell 1994). Mature stands of Engelmann spruce are susceptible to spruce beetles, also a native insect.

The understory in subalpine fir-zone forests varies considerably, mostly depending on the amount of moisture present. Common shrubs include grouse huckleberry, low huckleberry, Labrador tea, pachistima, shiny-leaf spirea, and Cascade azalea. Typical grasses and forbs are pinegrass, twinflower, heartleaf arnica, lupine, horsetails, starry false Solomon seal, and dogwood bunchberry (see Appendix D for scientific names).

Whitebark pine stands are occasionally found at the highest elevations within the subalpine fir zone and are susceptible to white pine blister rust, a non-native plant pathogen. A number of wildlife species eat the seed of whitebark pine including, Clark's nutcracker, red squirrel, black and grizzly bear, chipmunk, raven, Stellar's jay, and pine grosbeak. Of these species, the red squirrel and Clark's nutcracker harvest about 99% of the seeds in the Rocky Mountains. It is difficult to quantify the effect of bears on pine seeds because they obtain their seeds from red squirrel middens. It also appears that red squirrels and Clark's nutcrackers play a critical role in dispersing the seeds of whitebark pine (Hutchins 1994).

Figure 5. Vegetation - North Block

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Loomis NRCA Management Plan  
January 2003

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Figure 6. Vegetation - South Block

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## ***Discussion***

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Overall, the large extent of the subalpine fir-zone forests and the scarcity of roads within both parcels create a significant area of contiguous, relatively undisturbed habitat for rare or legally protected species including Canada lynx and grizzly bear. The condition of the plant communities with regard to stand maturity and composition of understory vegetation varies considerably over the landscape. Older forests may be Important to ecosystem function and may provide denning habitat. If older forests become a rare feature on the landscape, then it may be important to protect it within the NRCA. The situation will be assessed by scientists and managers, and a solution for protection developed.

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### Insects

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Mountain pine beetles (*Dendroctonus ponderosae*) are native insects that feed on the inner bark of lodgepole pine trees (other host trees include ponderosa and white pines, Douglas-fir, true firs, spruce and larch). It is normal within the natural system for 80-120 year old lodgepole pine stands to die from mountain pine beetle activity. Usually a variety of stand ages create a diverse forest where only a fraction of the trees serve as hosts for the beetles thus limiting the extent of dying trees.

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Past stand replacement fires in and around the Loomis NRCA occurred close enough together to create large areas of relatively even-aged lodgepole pine forest. As the trees reached 80–120 years in age in the late 1980s and early 1990s beetle populations reached epidemic levels. The beetles have significantly depleted host trees and as a consequence, beetle populations are decreasing. The natural progression of the system is for fire to burn the fuels created by the beetles. In the absence of fire, sub-alpine fir will become the dominant species. Additional information is provided in the “Forest Insect and Disease Leaflet #2” published by the US Forest Service.

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The spruce beetle (*Dendroctonus rufipennis*) is the most significant natural mortality agent of mature spruce. Spruce stands are most susceptible if they grow on well-drained sites in creek bottoms, have an average diameter at breast height (dbh) of 16 inches or more, a basal area greater than 150 square feet per acre, and more than 65 percent spruce in the canopy (Johnson 2000).

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Endemic (normal population level) spruce beetle populations usually live in wind-thrown trees and when beetle populations increase in downed trees, beetles may enter susceptible, large-diameter standing trees. Most outbreaks in standing trees originate in wind-thrown trees (USDA, Forest Insect and Disease Leaflet 127).

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In summary, the bark beetles are part of the natural system and in general are not a threat to the natural resources in the Loomis NRCA.

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### Disease

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Whitebark pine stands found in the subalpine fir zone may be reduced or extirpated by white pine blister rust (*Cronartium ribicola*), an introduced fungus that infects whitebark pine trees. White pine blister rust has caused high levels of mortality in this species in other portions of the Cascades, the northern Rocky Mountains, and in Canada. White



pine blister rust infects trees via the needles and then spreads to other portions of the tree through the cambium. It will kill branches or entire trees, readily infects saplings and seedlings, and makes infected trees more vulnerable to other diseases and insects.

Signs of this pathogen have not been observed in the Loomis NRCA, however it is known to occur with high incidence within North Cascades National Park and directly to the north in Canada. Potential measures to prevent infestation or reduce the spread of this organism include: removal of competing tree species, particularly subalpine fir, through fire or mechanical thinning; and planting high-mortality areas with blister rust-resistant whitebark pine trees propagated from on-site or local seed sources.

## Fire

Lodgepole pine trees make up the majority of fuels within the NRCA and they typically burn infrequently with high intensity. The mean wildfire interval in lodgepole pine forests in this region is estimated to be approximately 112 years (Barrett et al. 1997), but intervals probably vary from 70-300 years. Wildfires are either stand replacement events or partial mortality events that thin the canopy considerably. Wildfire intervals of less than 200 years will generally maintain lodgepole pine as the dominant tree species. In the absence of wildfire, some high elevation stands of lodgepole pine have progressed beyond their primary pine component into a spruce-fir type. As explained above, as the trees become older, they become more susceptible to bark beetles, trees eventually die and fuel loads increase.

DNR is directed by the fire suppression RCW (76.04.750) which states that DNR should make every reasonable effort to suppress all wildfires. The following three primary alternatives have been considered to make up for the absence of wildfire, however other alternatives may be developed in the future.

1. Prescribed fire, where fire is set on purpose under conditions that offer the most potential for maintaining control of the fire is a common management tool. However, it is not recommended as a tool for maintaining the ecological processes of the lodgepole forests in the Loomis NRCA because the nature of the subalpine fir ecosystem is set up for large high intensity wildfires that are difficult to control. In order to mimic the natural role of wildfire, the prescribed burn would need to be large (+/- 5,000 acres) and is beyond what is considered a "controlled burn". Typically, prescribed fires are small, less than 300 acres, and would not simulate a natural burn.

2. Prescribed fire is also used for managing fuel loads in specific vegetation types. Under the "right" conditions, controlled, low-intensity fires may consume fuels. However subalpine fir zone (lodgepole) forests generally do not burn at a low-intensity. The natural fire regime includes high-intensity, catastrophic fires.

3. A third option is to allow a wildfire to burn under very specific conditions dependant on weather, location and available resources (firefighters and equipment). In order for this to happen, state fire suppression laws would need to be changed. Also, considerable thought and research is needed to explore the possibilities of this option. Mechanically creating fuel breaks around the

edges of the NRCA or in other strategic locations should be assessed and analyzed.

In summary, prescribed fire is not a suitable management tool at this time for the sub-alpine fir zone. Fire suppression is covered in the Guidelines section and in Appendix E, the Loomis NRCA Fire Suppression Plan. It is also important to note that reducing fuel loads is not likely to decrease the fire intensity in the subalpine zone. Fuel reduction does little to mitigate fire effects in forests that have a low-frequency, high intensity fire regime because most fires occur during extreme weather conditions, become independent crown fires and cause significant mortality regardless of fuel loadings (Bessie and Johnson 1995).

### ***Management Actions:***

- Inventory and monitor the site for whitebark pine and monitor for occurrence of white pine blister rust.
- Coordinate with North Cascades National Park (and USFS) on monitoring the spread and potential management of white pine blister rust.
- Research options and opportunities to maintain the role of fire in the ecosystem.

### **Douglas-fir Zone**

Less than 5% of the vegetation within the Loomis NRCA falls within the Douglas-fir zone. Natural characteristics of this zone include a semi-open, but relatively continuous, tree canopy dominated by Douglas-fir, western larch, ponderosa pine, and/or lodgepole pine. The understory is dominated by shrubs and/or grasses, and may be limited by dense tree growth. Common understory species in this zone include kinnikinnick, snowbrush, pachistima, shiny-leaf spirea, ninebark, common snowberry, and mountain snowberry. Pinegrass is a dominant grass throughout much of this zone.

The open structure of the Douglas-fir zone was maintained historically by a mixture of frequent, low-severity fire and less frequent, moderate to high severity fire (primarily low-severity fire regimes). Typical pre-settlement fire return intervals were approximately 10-30 years on average with occasional longer intervals (Agee 1993). Fire suppression, combined with some management practices, has resulted in dense young canopy layers and ladder fuels, which in turn have increased the probability of stand-replacement high-severity fires and insect/disease outbreaks.

Douglas-fir beetles (*Dendroctonus pseudotsugae*), a native insect, are similar to the mountain pine beetle in that they seek out old, drought stressed or crowded host trees. Beetle larvae feed on the inner bark and are generally secondary pests, killing trees which have been previously weakened by other agents (Russell 1994).

### ***Discussion***

The importance and condition of Douglas-fir zone forest within the Loomis NRCA are similar to those described above for the subalpine fir-zone forest. The small amount of

Douglas-fir zone forest in the Loomis NRCA is contiguous (at lower elevations) with the extensive subalpine fir-zone forests on the site.

#### Fire

Pockets of Douglas-fir stands are near border areas of the NRCA. These areas would be most suitable for fire breaks to reduce the threat of fire burning onto adjacent lands. Creating fire breaks in these areas would decrease fuel loads and move the system towards a more natural low-severity fire regime and act as a low fuel load zone. Furthermore, the creation of fuel breaks will also move the Douglas-fir forests towards a structure more typical of pre-settlement conditions. The effectiveness of creating fuel breaks in the Douglas fir zone should be assessed. As shown in figures 5 and 6, a very small portion of the NRCA is actually within the Douglas fir zone.

#### ***Management Actions***

- Assess the feasibility and effectiveness of creating fuel breaks in the Douglas fir zone.

#### **Quaking Aspen Forest**

Within the Loomis NRCA, quaking aspen stands primarily occur in upland habitats as small patches (<5 acres) on south or southeast aspects. Stands are usually adjacent to shrub steppe and/or subalpine fir-zone forest. Aspen stands also are found in the vicinity of some streams and wetlands on the site. In these habitats, quaking aspen is generally the only tree present, with conifers occasionally scattered about. Understories vary from shrub- to grass- and forb-dominated vegetation. Common understory species include common snowberry and pinegrass.

Aspen stands in this area may be stable but are more likely seral to conifers (without some type of disturbance, conifers will eventually overtop them). Some stands can remain stable for decades but will eventually deteriorate as older trees die out. Deteriorated stands are typically overtaken by conifers, but on some sites, especially dry sites, shrubs, grasses, and/or forbs may become dominant. Periodic fire removes conifers and rejuvenates aspen stands.

Quaking aspen is an important habitat for a variety of wildlife. Large ungulates including moose, elk, and deer use aspen stands for foraging and cover. These species all browse on aspen, particularly small suckers that originate following disturbance, as well as many of the understory plants typically found in aspen stands. A variety of birds use aspen habitats for foraging, nesting, and cover, including cavity nesters such as owls, woodpeckers, and sapsuckers, songbirds such as chickadees, warblers, tanagers, and bluebirds, and game species including several species of grouse. Beaver are highly selective of aspen trees for both food and dam construction. The seral stage of aspen habitats heavily influences the degree of use by different wildlife species. For instance, stands of small suckers provide large amounts of forage for ungulates while older stands provide better cover.

## **Discussion**

The condition of aspen stands with regard to stand maturity and composition of understory vegetation has not been assessed. Many stands are near seeps or other areas with high water tables that have moist soils and relatively lush vegetation late into the season. As a result, cattle grazing is concentrated in some aspen stands and likely suppresses aspen rejuvenation. Furthermore fire suppression activities also interfere with the natural rejuvenation process. Reintroduction of fire, or perhaps mechanical disturbance, may be necessary to maintain the extent of aspen stands and the mix of seral stages that are important for wildlife.

## **Management Actions**

- Inventory and map aspen stands and seral conditions.
- Maintain aspen component at its current approximate acreage or greater with a mix of seral conditions at landscape scale.
- Consider the use of prescribed fire or mechanical disturbance within aspen stands if necessary to maintain mixed seral conditions.

## **Riparian and Wetlands**

Riparian vegetation and wetlands occur throughout the NRCA and are often interconnected and similar in their plant composition. Riparian zones are found adjacent to watercourses such as streams, rivers, springs, ponds, and lakes and represent the interface between terrestrial and aquatic environments. On the NRCA, riparian vegetation exists along stream channels of all types within the area, while wetlands are found primarily along streams of low gradient and/or with wide floodplains, at the head of stream courses, and in depressions on hillsides where moisture accumulates and creates wet or boggy conditions. The width of riparian zones and the types of vegetation found within them depend strongly on elevation, the size and gradient of the stream, and the type of soil present. The size and composition of wetlands are similarly dependent on elevation, soils, and the hydrology of the associated stream system. Many of the wetlands dry out during late summer and early fall, however some of the habitats remain wet or moist throughout the year.

The majority of riparian habitats within the NRCA are shrub-dominated, with various willows being the most common type of shrub, particularly at higher elevations. At lower elevations, some riparian communities along larger streams have a quaking aspen overstory, and black cottonwood may be present along a few of the lowest-elevation riparian areas. Other common riparian plants in the NRCA include Labrador tea, Cascade azalea, bog birch, sedges, rushes, grasses, and various forbs. In general, riparian zones along smaller, intermittent or seasonal streams are narrow and the vegetation is relatively similar to the associated upland communities. Larger and/or perennial streams generally have a wider riparian zone with a more distinctive strip of riparian vegetation. In these habitats, the vegetation may include riparian tree species such as quaking aspen, black cottonwood, or Engelmann spruce, as well as a mixture of riparian shrubs and herbs.



Wetlands in the Loomis NRCA have been grouped into the following two types based primarily on amount of coniferous tree cover:

- *Herbaceous/Shrub Wetland*: Open wet areas with less than approximately 30% tree cover. Includes marshes, herbaceous wet meadows, and shrub-scrub. Plant species typically include willows, bog birch, Labrador tea, Cascade azalea, sedges, rushes, grasses, and various forbs. Some communities have substantial amounts of *Sphagnum* moss.
- *Montane Coniferous Wetland*: Wet areas with approximately 30% or greater cover of coniferous trees. May include small areas of Herbaceous/Shrub Wetland. Plant species composition is similar to Herbaceous/Shrub Wetland except for the greater amount of tree cover.

Naturalists have long recognized the importance of riparian habitats to wildlife for several reasons: (1) the presence of surface water provides a critical habitat component for wildlife and the abundance of soil moisture creates habitat conditions favorable to many wildlife species; (2) the increased humidity, higher rates of transpiration, and greater air movement found in riparian zones create microclimate conditions that differ from adjacent uplands and are preferred by wildlife during hot weather; (3) the plant communities in riparian zones are more complex in their structure and composition and more productive than uplands (Bull 1978); (4) the linear shape of riparian zones make them natural corridors for many wildlife species (Thomas et al. 1979, Brinson et al. 1981, Oakley et al. 1985) and therefore might represent routes of gene flow (West 1988). Because of the unique aspects of riparian zones, some species are specifically associated with riparian zones (Pearson and Manuwal 2001).

## ***Discussion***

The condition of wetlands and riparian habitats in the Loomis NRCA with regard to species composition and hydrologic characteristics has not been assessed. Wetland/riparian systems typically have relatively fresh, palatable vegetation late in the growing season and frequently are associated with sources of drinking water for livestock. As a result, grazing is often somewhat concentrated in these areas, particularly late in the season. The concentration of grazing activity and development of trails can lead to impacts to vegetation, soils, and/or hydrology. A variety of impacts may be associated with heavy use of wetlands or riparian zones, such as soil compaction, hoof shear damage, downcutting of stream channels, alteration of flood regimes, and suppression of important wetland/riparian vegetation, particularly shrubs and sedges. Wetlands and riparian areas are included in the HB1309 Ecosystem Standards (B12, B13, B14a, B14b, B15, and B16) and management issues concerning cattle will be addressed specifically in the Resource Management Plans for each permit range.

Maintenance of wetland and riparian habitats is primarily dependent on maintaining the appropriate hydrologic conditions. In the past, occasional fires may have played a

role in removing shrub and tree cover; however because of the wet conditions most wetland/riparian habitats probably burned very infrequently.

### ***Management Actions***

- Work with permit holders to achieve the Ecosystem Standards for State-owned Agricultural and Grazing Land.
- Maintain a mix of seral conditions on wetlands throughout the NRCA, where they are dominated by native, non-increaser species and have a mix of shrub size classes where appropriate.
- Inventory and map riparian habitats
- Assess trails where they interface with wetlands and riparian zones.
- Relocate or recondition trails to address impacts to natural hydrologic and geomorphic processes.

### **Shrub-Steppe**

High-elevation shrub-steppe (including dry meadows) is found in 200-300 acre patches at 5,000-7,000 feet elevation, generally on dry, south-facing slopes. It consists of non-forested areas dominated by bunch and sod forming grasses, and shrubs, and is mainly devoid of trees. Shrubs, primarily mountain big sagebrush, may be absent, widely scattered, or form a dense stand. Perennial grasses and forbs generally make up the majority of vegetative cover. Some of the areas classified as shrub-steppe do not currently have shrub cover and are actually dry grassy meadows. Occasional trees may be widely scattered.

Plant species typically found in these shrub-steppe communities include mountain big sagebrush, western wheatgrass, Idaho fescue, pinegrass, California brome, various upland sedges, Wheeler's bluegrass, purple oniongrass, and a variety of forbs such as yarrow, pussytoes, prairie smoke, desert-parsley, lupines, and groundsel (refer to Appendix D for scientific names).

### ***Discussion***

The condition of shrub-steppe on the NRCA with regard to composition and non-native species has not been assessed. Cattle grazing is often concentrated in these areas due to the availability of desirable forage (grasses, sedges), especially in the early and mid season. Horse/cattle trails also access some of the shrub-steppe habitats on the NRCA, notably Goodenough Park and Disappointment Ridge.

These shrub-steppe habitats occur on warm, dry exposures of the south-facing slopes with poorly developed soils. Fire played a significant role in the past in removing occasional "invader" trees, and more importantly in creating a mosaic of seral conditions (areas with low and high shrub cover). The historic fire regime probably consisted of moderate-frequency (every 20-50 years) low-intensity fires, which would kill most small trees and mountain big sagebrush, leaving a more open grassland until

sagebrush and other shrubs re-established. Shrub-steppe communities are probably the most vulnerable on the NRCA to weed invasion. Soil disturbance, including fire, or overgrazing of native vegetation often result in invasion and increase of weedy species.

Due to the low-intensity fire regime in the shrub-steppe zone, prescribed fire may be an option for maintaining ecological processes in that zone. However, fire would need to be carefully implemented in order to minimize any increase in weedy species, particularly non-native annual grasses such as cheatgrass.

### ***Management Actions***

- Inventory and map conditions of shrub-steppe, including shrub cover/seral status.
- Maintain a mix of seral conditions in shrub-steppe communities throughout the NRCA.
- Work with permit holders to achieve Ecosystem Standards.

### **Subalpine/Alpine Grassland and Shrubland:**

In the NRCA, alpine vegetation only occurs above approximately 7,000 feet elevation on Snowshoe Mountain. It also occurs in the Chopaka NAP on Joe Mills Mountain, Hurley Peak, and Chopaka Mountain. Alpine communities primarily include grass-, forb-, and sedge-dominated meadows and fellfields, as well as some low shrub-dominated habitats. Some fellfield communities are primarily rock or bare ground with very sparse vegetation. This zone also includes subalpine parkland communities, which consist of subalpine meadows in a mosaic with scattered trees or tree clumps. These parklands typically have tree cover of less than 30%.

Alpine communities are primarily defined by a short growing season and deep winter snowpacks, which are often combined with summer drought to create extremely harsh growing conditions. Although not well understood, fire may have played a role in the past in maintaining some alpine meadows by removing trees.

### ***Discussion***

The condition of alpine vegetation on the NRCA with regard to composition and non-native species has not been assessed. A large area of high-quality alpine vegetation occurs in the adjacent Chopaka NAP. Cattle may use some areas of alpine habitat for grazing, however most of the habitat on Snowshoe Mountain is very difficult to access and not likely to be affected by livestock. Similarly, trail use by horses is likely to be minor. The amount of hiker use on Snowshoe Mountain is unknown.

Whitebark pine stands in subalpine/alpine habitats may be reduced or extirpated by white pine blister rust, an introduced fungus that infects whitebark pine trees (see Subalpine Fir Zone section).

## ***Management Actions***

- Maintain alpine communities dominated by native, non-increaser species, with few or no introduced species.
- Maintain a mosaic of shrub/forb-dominated communities and parkland communities.
- Survey/Inventory vegetation in alpine areas.
- Avoid trail development in alpine areas.
- Refer to Sub-alpine fir zone Management Actions for reference to Whitebark pine blister rust.
- Work with permit holders to achieve Ecosystem Standards.

## **Rock/Talus**

Rock/talus includes any areas of significant bare rock, cliffs, boulder fields, or talus. These occur at all elevations within the NRCA but are most common at higher elevations. The habitats are generally devoid of vegetation, although lichen and moss cover may be high.

## ***Discussion***

Although a minor habitat in terms of area, these communities are important for a number of wildlife species and for several rare plant taxa that may occur in the area.

## ***Management Action***

- Map talus areas and survey them for rare plant and wildlife species.

## **Harvested Areas**

Several areas in the northern block and to a lesser extent in the southern block, have areas that were harvested between 1988 and 2000. All of the harvested areas are located in subalpine fir zone forest and have been allowed to regenerate naturally. Regeneration of tree species varies among the harvested units, with some having dense reproduction of lodgepole pine and others having a mix of species including lodgepole pine, subalpine fir, and Engelmann spruce.

## ***Discussion***

These areas might be good as a control site for experimental projects to compare different silvicultural prescriptions and their long-term effect on forest structure. These areas and the roads built to access them are also vulnerable to weeds. In keeping with the management goals of the site, the harvested areas will be allowed to recover

naturally. Interference may occur if habitat requirements need to be met on a shorter time-line.

### ***Management Actions***

- Monitor weed populations and if necessary develop and implement a weed control plan.
- Provide opportunities for research.

## 930 **C.Plant Species**

931 A thorough rare plant inventory has not been done for the Loomis NRCA. However, some  
932 species have been identified and recorded in the Washington Natural Heritage Database. As  
933 a result, several species are noted in this plan and more may be identified during future  
934 inventory efforts. Other plant species of concern include noxious weeds and non-native  
935 invasive plants.

936

### 937 **Rare Plants**

938 For the purposes of this document, rare plants are plants assigned

939 - a federal status category of endangered, threatened or candidate;

940 - a Washington Natural Heritage Program status category of endangered, threatened,  
941 sensitive, or possibly extinct or extirpated in Washington; and/or

942 - a global or state rank of 1, 2 or 3.

943 All of these categories and rankings are defined in Appendix C.

944

945 Of the plant species known to occur in the Loomis NRCA, none of them have federal status.  
946 Table 1 lists rare plant species known to occur within the NRCA and their associated state  
947 status and global and state rankings. A thorough rare plant inventory is needed to provide a  
948 comprehensive list of rare plants in the NRCA.

949 Plants are prioritized in Table 1 beginning with state endangered, threatened and sensitive  
950 plants. Plants possibly extinct or extirpated in Washington are medium priority, and review  
951 groups and watch species are the lowest priority. The state plant species list is currently  
952 being updated and plants marked with an \* reflect the most current information that will be  
953 included in the anticipated revision of the Endangered, Threatened and Sensitive Vascular  
954 Plants of Washington with Working Lists of Rare Non-Vascular Species publication.

955

956

957

957 Table #1. Rare Plant Species List

Federal and State Status	Species	Rank	Habitat
State Threatened	Two-spiked moonwort <i>Botrychium paradoxum</i> *	G2S2	Herbaceous/shrub wetland, subalpine/alpine
State Sensitive	Diverse-leaved cinquefoil <i>Potentilla diversifolia</i> var. <i>perdissecta</i>	G3G4S3	Subalpine/alpine, shrub-steppe, rock/talus
	Tweedy's willow <i>Salix tweedyi</i>	G3G4S3	Herbaceous/shrub wetland
	Scandinavian sedge <i>Carex norvegica</i>	G5S2	Herbaceous/shrub wetland, subalpine/alpine
Review Group 2	Blackened sedge <i>Carex atrosquama</i> *	G4?S1	Herbaceous/shrub wetland, shrub-steppe, subalpine/alpine
	Gray's bluegrass <i>Poa arctica</i> ssp. <i>arctica</i>	G5?S1S2	Subalpine/alpine, rock/talus
	Different-nerved sedge <i>Carex heteroneura</i> *	G5S2	Herbaceous/shrub wetland, shrub-steppe, subalpine/alpine
State Watch	Victorin's grape-fern <i>Botrychium minganense</i> *	G4S3	Conifer forest, herbaceous/shrub wetland, subalpine/alpine, quaking aspen
	St. John's moonwort <i>Botrychium pinnatum</i>	G4?S3	Herbaceous/shrub wetland
	Lance-leaved grape-fern <i>Botrychium lanceolatum</i>	G5S3	Herbaceous/shrub wetland, shrub-steppe, quaking aspen
	Moonwort <i>Botrychium lunaria</i> *	G5S3	Herbaceous/shrub wetland, shrub-steppe, quaking aspen
	Little grape-fern <i>Botrychium simplex</i> *	G5S3	Herbaceous/shrub wetland, subalpine/alpine

G = global status, T = subspecies status, S = state status.

1 = Critically imperiled, 2 = Vulnerable, 3 = Very rare, 4 = Apparently secure, 5 = Widespread, abundant and secure  
G#G# or S#S# = uncertainty between ranks.

See Appendix C for complete description of ranks.

## ***Discussion***

Eleven of the twelve plant species listed in Table 1 are predominately found in open, non-forest habitats including wetlands, shrub-steppe, grassland, subalpine/alpine meadows, and rocky areas. This includes most of the areas designated as "Sensitive" within the NRCA. Trails access some of these areas, although current recreational use levels do not appear to threaten the plant populations. The primary potential impact is livestock grazing, which is often concentrated in these habitats due to forage and water availability. Heavy livestock use may be detrimental to rare plant populations due to trampling, introduction and spread of weeds, and/or direct grazing.

Adherence to Ecosystem Standards for grazing in these habitats will help to minimize these threats and reduce impacts to rare plants.

The Washington Natural Heritage Program tracks and monitors all plants with a state status of endangered, threatened or sensitive. Endangered and threatened plants usually require a designed monitoring scheme while plants categorized as sensitive may be visually monitored. If the status of a species changes or an extremely rare species is discovered, it may be necessary to modify management prescriptions in order to conserve the species in the long-term.

## ***Management Actions***

- Maintain Ecosystem Standards to help ensure that viable populations of rare plant taxa continue to exist, subject to natural variations.
- Survey the project site for rare plants prior to ground disturbing projects.
- Systematically inventory the NRCA for other potential occurrences of endangered, threatened or sensitive plants.
- Work with Natural Heritage botanists to determine appropriate monitoring scheme for two-spiked moonwort.
- Revisit known occurrences of state sensitive plants at least every three years at the appropriate time of year and update their status.



992 **Noxious Weeds**

993 A formal inventory of noxious weeds has not been conducted in the Loomis NRCA. In  
994 general, observations indicate that there are currently few, if any, significant populations of  
995 weeds on the site. Weed management guidelines are covered in the Management Guideline  
996 Chapter of this plan.

997

998 **Management Actions**

- 999       ▪ Conduct periodic inspections of disturbed areas (e.g. harvested and burned areas,  
000       roads and trails) with high potential for weed invasion,
- 001       ▪ As occurrences of noxious weeds are encountered, they should be mapped,  
002       documented, and a control plan developed.
- 003       ▪ Weed control plans, when developed, will use an integrated pest management  
004       approach and focus on minimizing impacts of the control methods while effectively  
005       controlling target weeds.

006

007

## 007 D.Wildlife Habitat

008 Wildlife habitat was prioritized based on federal and state designations and the Natural  
 009 Heritage Network global and state ranking system. Table 2 includes species listed as  
 010 threatened or endangered by either federal or state fish and wildlife agencies and species  
 011 with a global or state rank 1,2 or 3 (definitions of status categories and rankings are provided  
 012 in Appendix C).

013 One of the goals for the site is to protect habitat for threatened, endangered and sensitive  
 014 wildlife. Thus this section describes the types of habitat that are important to the wildlife  
 015 species in Table 2. Washington Department of Fish and Wildlife manages wildlife species  
 016 and DNR manages the habitat. DNR will cooperate with Washington Department of Fish and  
 017 Wildlife on species management. Management activities will comply with Endangered  
 018 Species Act obligations for all federal listed wildlife species.

019 Many of these species are wide-ranging and sensitive to human activity and the Loomis  
 020 NRCA contributes to the overall extent of their home ranges. It is important to note that  
 021 rankings and listings change, and there may be a lag time between when the status of a  
 022 species has changed and when the change is reflected in the listing or ranking. For example,  
 023 current studies indicate a resident population of gray wolf in Washington state (pers. comm.  
 024 Fleckenstein). However, the state rank has not yet been changed from SA to S1 to reflect  
 025 this new information. Some species have two G ranks or two S ranks and this indicates  
 026 uncertainty between two ranks.

027

028 Table 2. Priority Wildlife Species

Species	Rank	State Status	Federal Status
Grizzly bear ( <i>Ursus arctos horribilis</i> )	G4T3T4S1	Endangered	Threatened
Gray wolf ( <i>Canis lupus</i> )	G4SA	Endangered	Endangered
Wolverine ( <i>Gulo gulo luscus</i> )	G4T4S1S2	Candidate	Concern
Canada lynx ( <i>Lynx canadensis</i> )	G5S1S2	Threatened	Threatened
Northern goshawk ( <i>Accipiter gentilis</i> )	G5S3B,S3N	Candidate	Concern
Astarte fritillary ( <i>Boloria astarte</i> )	G5T3S2	n/a	n/a
Alpine checkered skipper ( <i>Pyrgus centaureae loki</i> )	G5T4S2	n/a	n/a
Lustrous copper ( <i>Lycaena cuprea</i> )	G5S2	n/a	n/a
Manitoba skipper ( <i>Hesperia comma Manitoba</i> )	G5T5S2S3	n/a	n/a

029 G = global status, T = subspecies status, S = state status.

030 1 = Critically imperiled, 2 = Vulnerable, 3 = Very rare, 4 = Apparently secure, 5 = Widespread, abundant and secure  
 031 A = Accidental,; infrequent, H = Historical record, U = Uncertain; additional information needed, ? = uncertainty about  
 032 assigned rank. B = Breeding habitat, N = Nesting habitat, Q = Questionable taxonomy, G#G# or S#S# = uncertainty  
 033 between ranks.

034

035 See Appendix C for complete description of ranks.

036

036 **Late Successional Forest**

037 Late successional forests are typically structurally and biologically diverse. The complexity of  
038 the ecosystem ultimately sustains biodiversity, providing habitat for multitudes of species.

039 Late successional forests provide a variety of environmental, structural and spatial attributes.  
040 These forests usually have at least 4 vegetative layers (mature canopy, sapling canopy,  
041 shrub and herbaceous), patchy canopies (variety of tree sizes and spacing), large standing  
042 dead trees and coarse woody debris. The distribution of late successional forest across the  
043 landscape provides corridors for wildlife dispersal and movement between the Loomis State  
044 Forest, the Loomis NRCA and adjacent reserves on federal lands. It also provides habitat for  
045 wildlife with large home-ranges, wildlife dependant upon specific structural habitat found  
046 within late successional forests and rare, threatened or endangered species.

047

048 ***Discussion***

049 Late successional forest areas identified within the NRCA contribute to a larger  
050 network of habitat throughout the Loomis Forest and adjacent land, and will be  
051 considered in meeting the goals and objectives of the Loomis Forest Landscape Plan.  
052 Over time, the forest mosaic will shift and late successional forests will gradually  
053 disappear and reappear across the landscape as environmental, structural and spatial  
054 attributes change. Fire and beetles may change late successional forests more  
055 rapidly.

056

057

058 ***Management Actions***

- 059
  - Allow late successional forest characteristics to develop through natural processes  
060 and natural ranges of variability.

061

062

063 **Grizzly Bear (*Ursus arctos horribilis*)**

064 The grizzly bear is the larger of the two bear species found in Washington. A grizzly bear can  
065 be distinguished from a black bear by its concave face profile, a hump on its shoulders and  
066 tracks. While study of this very rugged and remote habitat indicates that this ecosystem is  
067 capable of supporting a self-sustaining population of grizzlies, only a "remnant" population  
068 remains, incapable of enduring without active recovery efforts, including possible  
069 augmentation with bears from other areas (US Fish and Wildlife Service 2000). No resident  
070 grizzly bears are known to exist currently within the Loomis NRCA (Washington Fish and  
071 Wildlife Priority Habitat and Species database).

072 Grizzly bear are listed by the federal government as threatened in Washington (USFWS  
073 1993) and by the state as endangered (WDFW 2002). The US Fish and Wildlife Service  
074 delineated six Recovery Ecosystems and the North Cascades Grizzly Bear Ecosystem is the  
075 second largest (USFWS 1993). A supplemental chapter was developed to specifically  
076 address grizzly bear recovery in the North Cascades and was added to the Grizzly Bear  
077 Recovery Plan in 1997. Within the North Cascades ecosystem, Washington's portion is

078 subdivided into 54 Bear Management Units (BMUs) including the Upper Toats BMU which  
079 encompasses the Loomis NRCA.

080 All naturally vegetated land types are considered suitable grizzly bear habitat as it ranges  
081 over large areas and typically uses many vegetation types to fulfill its life requirements.  
082 Habitats of special importance to this wide-ranging species include: wet meadows, swamps,  
083 bogs, streams, alpine meadows and parklands, and conifer, sub-alpine, and lodgepole pine  
084 forests (Brown 1985). More specifically, they prefer areas with little human disturbance.  
085 Grizzly bear "core" habitat is that which is greater than a third of a mile from roads and high  
086 use trails (average of 20 or more parties per week).

087

## 088 ***Discussion***

089 Grizzly bears are sensitive to human activity. The Grizzly Bear Recovery Plan  
090 identifies human access management (USFWS 1993) as the single most important  
091 tool for managing and maintaining grizzly bear habitat. Direct habitat loss and bear  
092 mortality associated with roads and trails, together with indirect behavioral effects  
093 (e.g., male - female interactions and avoidance behaviors) associated with roads and  
094 trails, may cumulatively impair recovery of small grizzly bear populations like those in  
095 the North Cascades.

096

## 097 ***Management Actions***

- 098 ▪ Distribute and post safety procedures for avoiding contact with grizzly bear.

099

100

## 101 **Gray Wolf (*Canis lupus*)**

102 The gray wolf is listed as federally endangered. Wolves are social animals, normally living in  
103 packs of 2 to 10 members. Packs are primarily family groups consisting of a breeding pair,  
104 their pups from the current year, offspring from the previous year, and occasionally an  
105 unrelated wolf. Packs occupy, and defend from other packs and individual wolves, a territory  
106 of 20 to 214 square miles (USFWS 2000). In the northern U.S. Rocky Mountains, territories  
107 tend to be larger, typically from 200 to 400 square miles (USFWS 2000). In 1990, adults with  
108 pups were seen in the Hozomeen area of Washington (North Cascades near Ross Lake at  
109 the Canada border). Since 1990, biologists have seen three separate groups of adult wolves  
110 with pups in the Cascades (North Cascades National Park 1998). Because of this apparent  
111 expansion in the range of wolves in Washington, they may eventually be found within the  
112 Loomis. The gray wolf uses many habitat types as long as there is an adequate ungulate  
113 prey base (Laufer and Jenkins 1989). Potential prey for wolves in the Loomis NRCA are:  
114 white-tailed deer, mule deer, moose, mountain goats, and bighorn sheep.

## 115 ***Discussion***

116 In late spring, wolves use den sites for maintaining wolf pup temperatures (first 3  
117 weeks), nursing, and protection from potential predators. During these critical early  
118 weeks, the pups are especially vulnerable to den site disturbances that keep the  
119 female away (Joslin and Youmans 1999). Wolves will sometimes abandon a den if

disturbed by humans (Mech et al. 1991). After denning, rendezvous sites (places where pups are left temporarily while the pack hunts) are often located near water and bordering meadows. Wolves may be sensitive to disturbance at rendezvous sites and may abandon the site in response to human activity (Joslin and Youmans 1999). Consequently, human activities near den and rendezvous sites should be avoided.

### **Management Actions**

- Trails may need to be temporarily closed or moved to avoid disturbance to a den or rendezvous site – especially those that are located near water and meadows.

### **Wolverine (*Gulo gulo luscus*)**

The wolverine is the largest member of the weasel family and is robust in appearance, rather like a small bear with a broad head, rounded ears, small eyes, short legs, with a dark brown coat with two buff stripes that sweep from the nape of the neck along the flanks and to the base of a long bushy tail. The wolverine is a wide-ranging species and has been characterized as one of North America's rarest mammals and the least known large carnivore. No wolverine sightings have occurred in the Loomis NRCA, however this species may exist in an area and never have been seen. A wolverine and its den were located during the winter of 2001/2002 in the Pasayten Wilderness not far from the Loomis NRCA.

Wolverines in Idaho (Magoun and Copeland 1998) and British Columbia select sub-alpine cirque basins above 8,202 feet elevation with large boulder talus (rocks > 2 meters diameter) for denning. They prefer areas with little or no human activity. Wolverines have a diverse diet that ranges from ground squirrels and marmots to ungulates. Most ungulate in the diet is from carrion, and ungulate carrion is the main food source available in the winter. Avalanche-killed mountain goats can be another source of carrion. Wolverines primarily use coniferous forest (70%), but also use higher elevation habitats with marmots, voles, *etc.*, in summer.

### **Discussion**

The most common habitat characteristic is isolation from humans. Wolverine use of an area may be virtually eliminated by human disturbance (*e.g.*, heavy snowmobile or recreational ski use). Direct contact between humans and two denning females in Idaho in late April and May resulted in den abandonment in both cases (Magoun and Copeland 1998). Consequently, providing areas free from disturbance for denning is invaluable to Washington's low-density population.

### **Management Action**

- Trails may need to be temporarily closed or moved to avoid disturbance to a den or rendezvous site.

## **Canada Lynx (*Lynx canadensis*)**

Canada lynx stand 2-3 feet at the shoulder are about three feet long and are characterized by a short, black tipped tail, tufted ears, facial ruff, elongated hind legs, and large (3-4") paws. Their large, snowshoe-like paws enable them to inhabit snowy areas often avoided by other predators (e.g. coyotes and cougars). Both blocks of the Loomis NRCA have many recorded sightings for lynx.

Mean home ranges of lynx in Washington were from 14 (female) to 21 (male) square miles, but have been recorded as large as 38.2 square miles (Brittall et al. 1989, Koehler 1990). Lynx home ranges tend to overlap with mid-successional forests (Saunders 1961, Koehler et al. 1979, Kesterson 1988, Major 1989). Lynx inhabit 20-40 year old forests that regenerated after a low to moderate intensity burn (usually stand replacement fires). The habitat characteristics of these forests include high vertical and horizontal vegetative cover, a result of high stem densities, with average tree heights of 7-20 feet (2-6m) and 75-80% crown closure (Parker 1981, Thompson et al. 1989).

The association between lynx and mature and older forests is less clear than their association with mid-successional forests. Some mature forests contain a relatively dense layer of shrubs or regenerating trees and provide habitat for snowshoe hares, the primary food source for lynx. Mature forests also contain structural components currently thought necessary to be suitable denning habitat, including log piles (i.e., deadfall, windfall, etc.), rocks, root tangles, shrub thickets, or similarly dense vegetation. The spatial relationship between mature and mid-successional forests may also influence the use of mature forests by lynx. Wildland fires often leave unburned patches or stringers. In time, as these areas develop into mature forests, they are often used by lynx (Koehler et al. 1979, Kesterson 1988, Staples 1995), for foraging and denning sites.

## ***Discussion***

Wild fire historically played an important role in maintaining the mosaic of forest and successional stages that provide habitat for both snowshoe hare and lynx (Ruediger et al. 2000). There is a negative correlation between lynx use and the amount of area burned for the first years after a fire (Fox 1978). Hare populations increase with time after stand regeneration and populations peak 15 to 30 years after stand re-initiation (depending on tree species, habitat type, and severity of fire). Lynx population numbers are closely tied to the abundance of hare, thus wildfire is beneficial to the lynx through the creation of prey habitat. Consequently, fire may be recommended as a management strategy, especially in regions where the forests are dominated by mature and older forests. Periodic fires can create a mosaic of forest ages across the landscape and as a result, provide patches of appropriate lynx and hare habitat.

## ***Management Actions***

- Coordinate with US Fish and Wildlife Service and Washington Department of Fish and Wildlife to meet lynx habitat protection goals and objectives outlined in the Modified Lynx Habitat Plan.
- Adapt management actions as additional research is provided.



204

205

206 **Northern Goshawk (*Accipiter gentilis*)**

207 This species typically nests in mature to old-growth forests composed primarily of large trees  
208 with high canopy closure, near the bottom hill slopes, with sparse ground cover, and near  
209 water (Squires and Reynolds 1997). Goshawks nest from sea level to the alpine zone and  
210 rarely uses forest stands < 25 acres. They hunt in diverse habitats from open sage steppe to  
211 dense forests (Squires and Reynolds 1997) and will forage over long distances for relatively  
212 large-bodied birds and mammals (squirrels, jackrabbits, snowshoe hare, grouse, corvids,  
213 woodpeckers, etc.). In the winter, goshawks use cottonwood riparian areas (Squires and  
214 Ruggiero 1995), aspen, spruce/fir, lodgepole pine, ponderosa pine, and open habitats  
215 (Squires and Reynolds 1997).

216

217 ***Discussion***

218 This species benefits from late seral forests near water for nesting but will forage in a  
219 variety of habitat types. They are considered a "management indicator" species on  
220 many national forests because they are potentially sensitive to habitat change.

221

222 ***Management Actions***

- 223     ▪ Consider potential impacts of management and recreational activities around  
224         known and potential nest sites.

225

226

227 **Alpine Butterflies**

228 Four alpine butterflies associated with alpine and subalpine plant communities that are rare in  
229 the state either occur or are likely to occur within the NRCA: alpine checkered skipper  
230 (*Pyrgus centaureae loki*), Manitoba skipper (*Hesperia comma Manitoba*), lustrous copper  
231 (*Lycaena cuprea*), and Astarte fritillary (*Boloria astarte astarte*). In Washington, these  
232 species are only found within the Okanogan Highlands. The primary distribution of these  
233 species outside of Washington includes British Columbia, Yukon Territory and Alberta.

234

235 ***Discussion***

236 The butterflies depend on plant species that are part of the dry alpine mosaic and  
237 subalpine plant communities for reproduction and survival.

238

239 ***Management Action***

- 240     ▪ Management actions are the same as those outlined for the subalpine/alpine  
241         grassland and shrubland plant communities (see the Forest Zones and Plant  
242         Communities section).

243

244

## 245 **Special Interest Species**

246 Bird species with primarily boreal distributions that occur in the region surrounding the  
247 Loomis NRCA include: great gray owl, boreal owl, spruce grouse, white-tailed ptarmigan,  
248 boreal chickadee, three-toed woodpecker, black-backed woodpecker and northern bog  
249 lemming.

250 California bighorn sheep were re-introduced to the area in an effort to establish a native  
251 population. This species is managed by the Washington Department of Fish and Wildlife as  
252 a game species and is not considered rare in the state. However the Washington  
253 Department of Fish and Wildlife does have a specific interest in bighorn sheep populations in  
254 the Loomis forest area.

255

## 256 ***Discussion***

257 Boreal species are much more abundant in Canada and inhabit Washington at the  
258 extreme southern extent of their range. Usually management activities are prioritized  
259 by meeting the needs of rare or listed species, however the overall land management  
260 goals of the NRCA are conducive to serving wildlife habitat needs in general.

261

## 262 ***Management Actions***

- 263
- Maintain an awareness of indicator species and their natural range of variation.
  - Support Department of Fish and Wildlife and the Canadian Wildlife Service efforts  
265 to monitor and maintain bighorn sheep populations.

266

267

## 268 **Non-Native and Introduced Animals**

269 Other than livestock, no sightings or issues have been reported regarding non-native or  
270 introduced animals.

271

## 272 ***Management Actions***

- 273
- Conduct periodic inspections of the site for non-native wildlife species.
  - As non-native wildlife species are discovered, sightings and disturbance to the  
274 site should be documented, and if necessary work with the Department of Fish  
275 and Wildlife to develop a control plan.

277

278

278 **E.Land Use**

279 It is very likely that the Loomis NRCA was used by Native American Tribes now represented  
280 by Colville Confederated Tribes and the Upper Similkameen Indian Band (First Nations  
281 People of Canada), however specific documentation of traditional gathering or spiritual sites  
282 are not recorded. During the early days of settlement the land was used by sheep herders,  
283 cattlemen, hunters, trappers, and mineral prospectors. Through the years land use shifted.  
284 Livestock grazing and hunting continued while newer uses such as commercial logging,  
285 recreational hiking, equestrian use, snowmobiling, cross-country skiing and snowshoeing  
286 developed. Those uses, except for commercial logging, continue today and are included in  
287 the management of the NRCA.

288 Even though the NRCA is in public ownership, it is very important to many of the local  
289 residents and citizens throughout the state. Some people relate to the site through  
290 generations of memories and family history tied to using the natural resources of the area.  
291 Some people feel connected to the site through their strong belief in conservation. Many  
292 people claim both.

293 This section addresses the variety of public use perspectives and offers some direction on  
294 how various uses may be accommodated. Table 3 outlines allowed uses and conditions of  
295 use.

296

297 Table 3. Allowed uses within the Loomis NRCA.

Type of Use	Conditions of Use
Hiking, Nature Study, Photography	All use is subject to "pack-it-in, pack-it-out" guidelines.
Approved Research	Allowed provided that researchers receive approval from DNR prior to conducting their research project.
Cross-Country Skiing	Allowed on all DNR approved trails.
Snowmobile Use	Allowed on DNR approved all season and winter use only trails and play areas as shown in figures 7 and 8.
Camping	Dispersed, "no trace".
Horseback Riding	Allowed on DNR approved all season and summer use only trails as shown in figures 7 and 8.
Hunting	Allowed based on historic use and regulated by the Department of Fish and Wildlife.
Livestock Grazing	Allowed with a valid grazing permit.
Pets	Must be on a leash.
Wheeled Motorized Vehicles	Use is only permitted on Thunder Mountain Road and Lone Frank Road.

## **Incompatible Uses**

Some types of use are not compatible with the goals of the Loomis NRCA. When done frequently or by enough visitors, these activities prevent DNR from successfully fulfilling its land management responsibilities outlined in the NRCA Act and the Settlement Agreement. Incompatible uses include any activities that DNR determines to be unsafe, destructive, disruptive or in conflict with the management goals of this plan. They include, but are not limited to:

- Recreation with wheeled (motorized/non-motorized, e.g. mountain bikes) vehicles,
- Competitive events
- Removal or alteration of vegetation, soil, or rock, except as part of weed control, habitat restoration projects or tribal use.

\* Note: Wheelchairs are not included in the restrictions listed above.

## **Conditional Use**

Any use not in Table 3 is disallowed, except by temporary permit granted by DNR for Conditional Uses when the proposed use is proven to meet all of the following criteria:

- poses no threat to protected sensitive resources,
- does not compromise or degrade ecosystems and resources on the NRCA,
- provides a net benefit to the NRCA program,
- does not deprive the general public access to enjoyment of the NRCA, and
- does not detract from the general public interest.

Public uses not addressed in this plan will be evaluated in the future based on the following criteria:

- Compatibility with NRCA Statewide Plan public use policies and the settlement agreement for the Loomis NRCA.
- Compatibility with ecological goals outlined in this plan.
- Availability of appropriate sites within the NRCA that are not sensitive to the proposed activity.

## **Access**

### **North Block**

Access to the NRCA is limited to foot, horseback, and non-wheeled motorized vehicles. Wheeled vehicle access is limited to site management and emergency vehicles. Visitors can reach the boundary of the north block by traveling on DNR roads (Figure 7, Trails and Roads). The Ninemile Road ends at the Loomis NRCA boundary north of Cold Creek Campground where a gate marks the boundary and limits vehicle access to the Loomis

335 NRCA. The gate is posted with a sign stating that wheeled motorized vehicles are not  
336 permitted beyond the gate, however, trespass does occur.

337 A gate on the Fourteenmile Road half a mile south of the Loomis conservation area boundary  
338 also limits wheeled vehicle access, however hikers, horses and snowmobiles are not  
339 restricted. An additional gate at the NRCA boundary allows equestrians and hikers to access  
340 the site and provides a place to move equipment and cattle around the cattle guard.

341 The NRCA can also be accessed by the Albert Camp Trail from Forest Service land. A small  
342 gate was installed at the conservation area boundary on the Albert Camp Trail to allow hikers  
343 and equestrians to pass through while keeping cattle in the permit range area. The area  
344 accessed by Albert Camp Trail west of the North Fork Toats Coulee Creek and south of Little  
345 Horseshoe Creek was not used in the past for snowmobile use thus snowmobiles are not  
346 permitted in this area.

347 Several other trails provide access to the conservation area for hikers and equestrians from  
348 the Pasayten Wilderness. Boundary markers are subtle or non-existent.

349

350

### 351 **South Block**

352 Thunder Mountain and Lone Frank roads both go through the conservation area and carry  
353 through traffic (Figure 8, Trails and Roads). Both roads are unsigned and rough. Low-  
354 clearance or 2-wheel drive vehicles are not suitable for traveling either road.

355 Thunder Mountain Road is accessed from the east by state forest roads in the Loomis State  
356 Forest and from the west by USFS forest roads in the Okanogan National Forest. Thunder  
357 Mountain Road is part of a popular scenic driving loop, however it is closed to wheeled  
358 motorized vehicles in the winter and spring months due to snow and wet conditions. The  
359 road also serves emergency vehicles.

360 Lone Frank Road (#3820) crosses the southwest corner of the South Block. Users travel on  
361 this road with ATVs and snowmobiles to access the area around Tiffany Mountain.

362 Three trails provide access to the south block area from Forest Service and state land for  
363 snowmobiles, equestrians, and hikers. Boundary markers are subtle or non-existent.

364

### 365 ***Discussion***

366 The two main access points for the north block are at Cold Creek and Fourteen mile.  
367 Trailhead improvements will occur as time and resources allow. A potential location  
368 for a trailhead has been identified within the NRCA along the Fourteenmile Road,  
369 however a more in-depth site analysis is needed. New signs would help to inform  
370 visitors of the boundary of the NRCA and permitted uses.

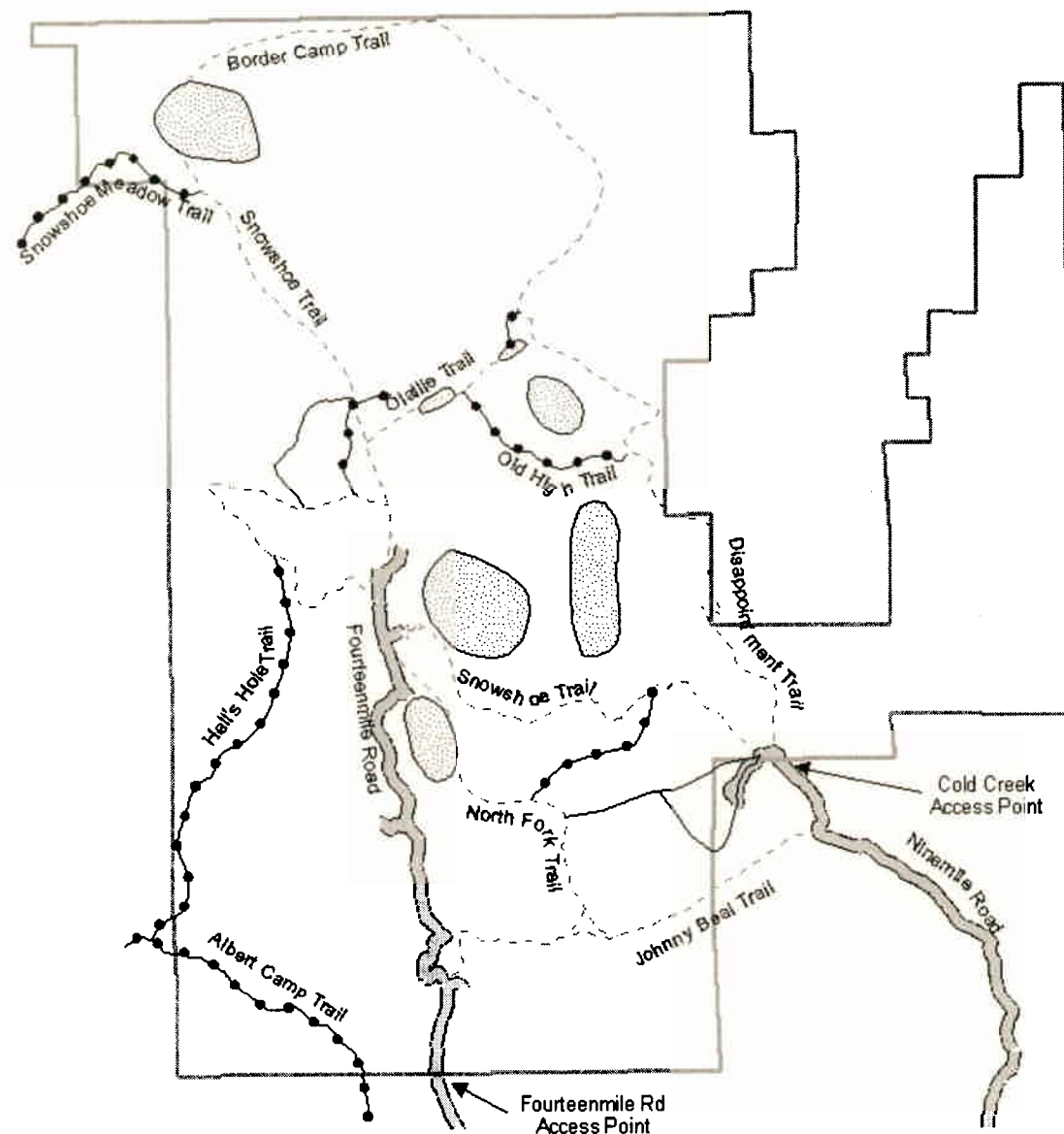
371

### 372 ***Management Actions***

- 373
- Work with user groups to develop and install new signs with a positive message.
  - 374 ▪ Work with user groups to develop a site plan to serve permitted uses at access  
375 points.

Figure 7. Trails & Roads - North Block

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### Legend

- All season (A) Light Use
- Summer use only (S)
- Winter use only (W)
- Roads
- Snowmobile Play Area
- Loomis NRCA
- \* All snowmobile trails are light use trails
- \*\* This map shows approximate trail locations.

Motorized wheeled vehicle access is limited to emergency and maintenance vehicles.

Loomis NRCA Management Plan  
January 2003

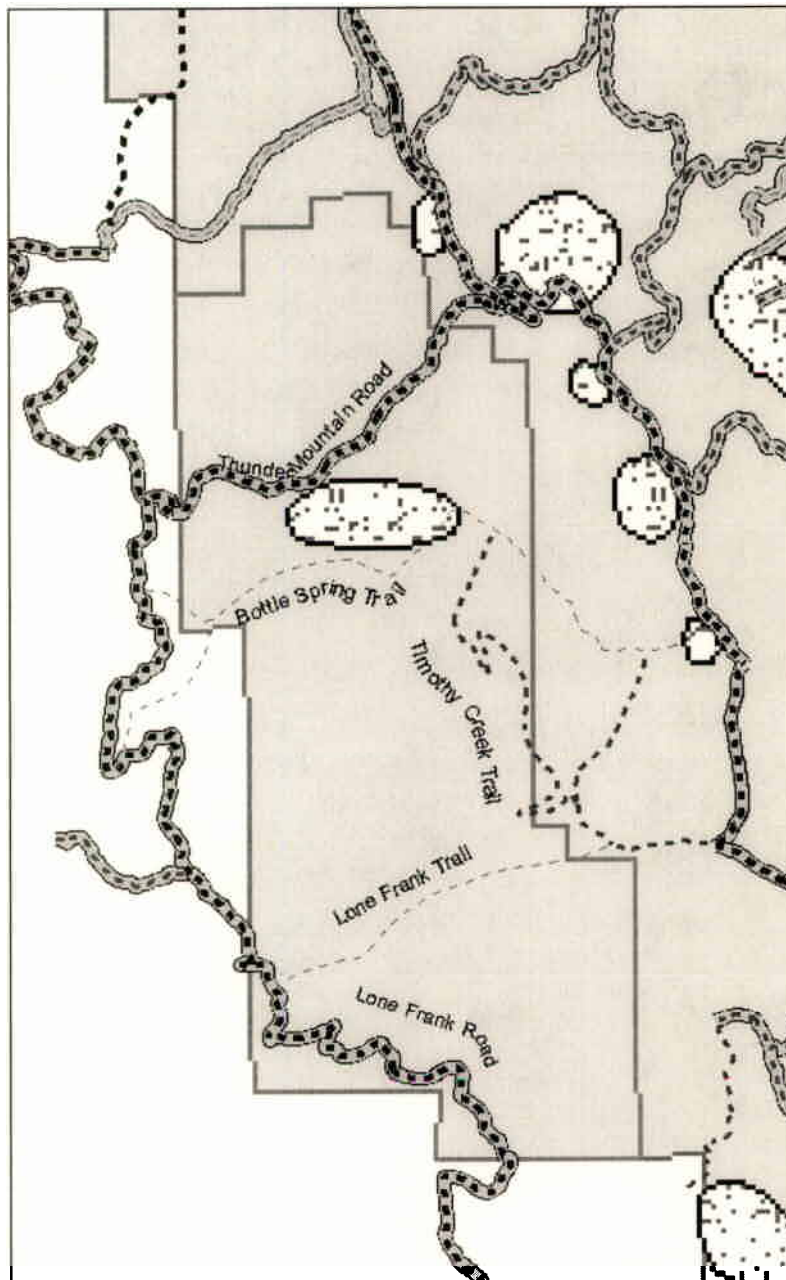
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377



Figure 8. Trails & Roads - South Block

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### Legend

#### All Season Trails

- Heavy
- ..... Moderate
- Light
- Roads
- ▨ Snowmobile Play Area
- ▭ Loomis NRCA
- ▭ DNR Land

Motorized wheeled access  
is limited to roads.

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January 2003



## 378 **Recreation/Trails**

379 The Statewide Management Plan for NRCAs defines low-impact public use as those activities  
380 that do not adversely affect the site's natural qualities. Specifically, activities shall not  
381 compromise a site's integrity, ecological, scenic, historic and archaeological values.  
382 However, for the Loomis NRCA, snowmobile use, and horseback riding are permitted uses.  
383 Hunting does occur and is regulated by the Washington Department of Fish and Wildlife.  
384 Figures 7 and 8 show the DNR approved trail system and the uses associated with each trail.

385

## 386 ***Discussion***

387 The management emphasis for recreation in the Loomis NRCA is to maintain the  
388 current trail system with some improvements to trailheads, evaluation of trail locations  
389 and installation of signs. These improvements will help provide a safe recreational  
390 experience and contribute to the overall management goals of protecting sensitive  
391 resources. Uses are discussed in more detail below.

392

## 393 **Snowmobiles**

394 Snowmobile use in the Loomis NRCA is a back country experience that requires  
395 technical riding at low speeds through difficult terrain and heavily forested areas. In  
396 the late 1990s snowmobile technology created more powerful machines. As a result  
397 historic use occurs but with new machines that are capable of traveling greater  
398 distances and speeds to areas that were either lightly used or inaccessible in the past.  
399 This issue has been discussed by winter user groups out of a concern for safety,  
400 habitat for critical species, user experience, scenic qualities and trail maintenance.

401 The U.S. Fish and Wildlife Service requested that DNR not allow any increase in  
402 designated or groomed over-the-snow snowmobile routes or snowmobile play areas  
403 within Lynx Management Units (this includes both blocks of the NRCA). Authorized  
404 trail routes and play areas are shown on figures 7 and 8. Furthermore, DNR will  
405 manage snowmobile use and will employ strategies to discourage inappropriate use.

406

## 407 **Horseback Riding**

408 Equestrian use in the area known today as the Loomis NRCA dates back to the 1890s  
409 when settlers hunted, trapped, and herded livestock. Today this user group has  
410 expanded to include a recreational riders who generally use the north block to access  
411 the Pasayten Wilderness in the summer months. The most popular trails for  
412 recreational riding are the Albert Camp Trail and the Snowshoe Trail. In general trails  
413 are rough and require maintenance to keep them clear of tree limbs as high as 8-10  
414 feet. Horses are unloaded and loaded from trailers outside of the NRCA. The Bottle  
415 Spring and Lone Frank Trails in the south block are also used by horseback riders.

416

## 417 **Structures**

418 A few historic, uninhabitable remnants of structures are located in the north block and  
419 are used primarily as landmarks and safety shelters for sudden extreme weather.

Historically these structures were built and maintained by users. For liability reasons, users are required to have approval to continue maintenance on the structures. DNR does not assume responsibility for the structures and any construction or improvement to these structures should be reviewed by, and coordinated with Northeast Region staff.

### **Trails (Roads)**

Many of the trails located in the NRCA were established long ago by cattlemen herding cattle throughout the area. Some trails date back to when sheep herders worked the area. Over time trail use expanded to include other users and now the NRCA has several trails that serve cattlemen, recreational equestrians and hikers in the summer; snowmobilers, snowshoers and cross-country skiers in the winter and; hunters in the fall and winter.

In general trails vary greatly in the NRCA. Trail width ranges from 1 to 12 feet and some trails are barely visible and others are obvious. Improvements are needed at stream crossings and wet areas. Trails are maintained by users to keep vegetation pruned back and some trails are marked with tree blazes.

Old road beds also contribute to the trail system. The Disappointment Trail (previously known as the Jeep Trail) which starts at the Cold Creek access point is an old, unmaintained road. It is closed to wheeled vehicles except for authorized site management and emergency vehicles. The portion of Fourteenmile Road within the NRCA was built in the late 1980s to haul timber and has created a new trail route and has changed the Snowshoe Trail where it intersects with the North Fork Trail.

Trailheads are not developed and coincide with gate locations. An open area at the Cold Creek "trailhead" provides places to park in the summer months. Equestrians unload their horses at the corrals south of Cold Creek Campground or at Fourteen Mile Recreation Site (USFS). See Access Section in the Land Use Chapter for more detail.

### ***Management Actions***

- Assess trail locations and impacts to natural resources and re-route or improve trails to increase user safety and resource protection.
- Develop a trail maintenance agreement with user groups.
- Bring together user groups annually to discuss trail maintenance issues and plan maintenance projects.
- Maintain trails in accordance with trail standards and guidelines outlined in the Guidelines Chapter of this plan.
- Maintain (keep vegetation trimmed back) the portion of Fourteenmile Road that extends into the Loomis NRCA for emergency vehicle access.
- Allow spur roads to revegetate and officially abandon through Forest Practices Rules and Regulations.

## **Permit Range Management (Grazing)**

As already stated, the area now known as the Loomis NRCA has a long history of cattle grazing and several permit ranges overlap with the NRCA. The north block is part of the Chopaka Permit Range (a very small portion of the north block also falls within the Ninemile permit range) and the south block falls within four Permit Ranges: Toats Coulee, Cecile, Sarsapkin, and Salmon Meadows. Fences and natural barriers delineate the permit ranges and contain cattle. Gate management is important for managing cattle. An important rule of the range is leaving gates as they are found.

Each permit range is managed according to a Coordinated Resource Management Plan and the plans are updated when permits are renewed (every 10 years). All of the permit ranges that overlap with the Loomis NRCA are due to be renewed by December 2002 and Natural Areas staff are included in the renewal process.

Permit holders meet annually with DNR and Natural Resources Conservation Service staff in the fall (Coordinated Resource Management meeting) to review the past grazing season and address specific management issues. In the spring the same group meets to review the grazing schedule for the upcoming season. The grazing schedule includes the turn-out date, total AUMs (wildlife unit month or cow/calf pair) and grazing schedule (refer to a range-specific Coordinated Resource Plans for more detail).

Generally cattle are herded out to the permit ranges in June and they move down to lower elevations in September and October. Turnout dates change depending on climate conditions. Cattle generally concentrate their grazing where the majority of forage and to some extent, water, are located. This includes open areas such as shrub-steppe, wet meadows, and harvested areas. They tend to avoid steep topography and dense forest.

### ***Discussion***

The Coordinated Resource Management Plans are the existing management framework for grazing practices in the NRCA and the Loomis State Forest. After the plans are updated, they will address the ecosystem standards in House Bill 1309. The ecosystem standards were designed to address the impacts of agricultural and grazing practices (on state-owned land) on fish and wildlife habitat. As a result, grazing practices within the Loomis NRCA will be guided by Coordinated Resource Management Plans associated with the permit ranges that overlap with the NRCA.

### ***Management Actions***

- Participate in Coordinated Resource Management Meetings and the permit renewal process.
- Use signs to remind users of the importance of closing gates.
- Implement management decisions from coordinated Resource Management Meetings.

503 **Environmental Education**

504 Currently there is not an organized program or curriculum. However, the site is used.  
505 occasionally for educational field trips.

506

507 ***Discussion***

508 The Loomis NRCA is approximately 30 miles from Tonasket. Access is limited from  
509 November to May due to snow and facilities are rustic to non-existent. As a result,  
510 opportunities for groups of students to travel to the site during the school year are  
511 limited. However, the site is available for field studies. Research topics include, but  
512 are not limited to, wildlife, rare plants, weeds, disturbance ecology (including wildfire),  
513 or livestock grazing ecology.

514

515 ***Management Actions***

- 516     ▪ Conduct a site analysis to determine the site's capacity for outdoor environmental  
517       education.
- 518     ▪ Identify features of educational value.
- 519     ▪ Conduct a survey or interviews to identify environmental education needs of the  
520       local communities. Match needs appropriately with site capacity, educational  
521       opportunities and proximity to local education centers.
- 522     ▪ Determine appropriate means such as brochures, self-guided tours, or interpretive  
523       signs for delivering the identified environmental message.
- 524     ▪ Exhibit and distribute information on research opportunities to higher education  
525       institutions.

526

527

528

529

530

## SECTION III: MANAGEMENT GUIDELINES

---

Management actions outlined in the previous chapter pertain to specific management issues. This section provides guidance for implementing those actions and for addressing future management issues.

### A. Sensitive Areas

Certain portions of the NRCA have been identified that may be particularly vulnerable to impacts from public use (includes grazing) and fire suppression activities (Figures 9 and 10, Sensitive Areas Maps). These sensitive areas include pockets of habitat within the Loomis NRCA that support or have a high probability of supporting sensitive, threatened, or endangered plant and wildlife species. Direct impacts to these areas may damage populations of such species or their habitat. Where a high potential exists for sensitive areas to be impacted by public use or fire suppression activities, high impact activities should be redirected to other locations when possible. Additionally, sensitive areas (except rock/talus/cliff habitats) are high priority areas for monitoring efforts. Habitats identified as Sensitive Areas include:

Alpine/Subalpine Meadows – Vegetation is particularly sensitive to soil disturbance from machinery or heavy trampling. Once soil has been compacted or scrapped away, natural regeneration is significantly inhibited. Soil disturbance should be limited to the edges of these habitats as much as possible.

Wetlands and wet meadows – Soft hydric soils are easily compacted. Soil compaction can alter vegetation dynamics and may interrupt hydrologic functions. Many of the sensitive, threatened, or endangered plant and wildlife species known or suspected in the Loomis occur in wetland and wet meadow habitats.

Riparian habitat – Removing or crushing vegetation, and disturbing soils in riparian areas can increase erosion if stream banks are exposed. Soft hydric soils are easily compacted. Soil compaction can alter vegetation dynamics and may interrupt hydrologic functions.

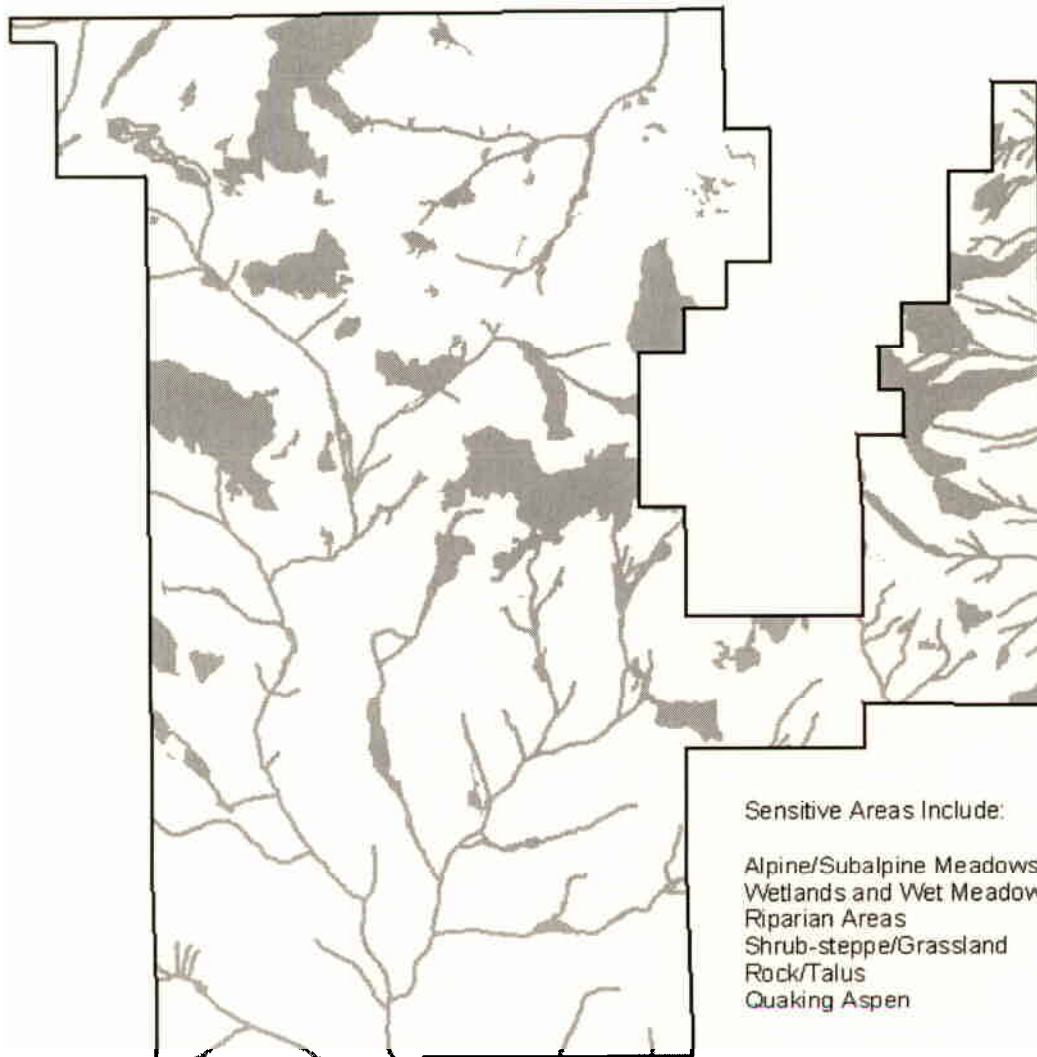
Shrub-steppe and dry grassland openings - Vegetation is particularly sensitive to soil disturbance from machinery or heavy trampling. Areas of heavy soil disturbance may become vulnerable to weedy plants and noxious weeds. Regeneration of native species is difficult. Soil disturbance should be limited to the edges of these habitats as much as possible.

Rock/talus/cliffs - These habitats support or may support a disproportionately large number of the sensitive, threatened, or endangered plant and wildlife species. While not particularly vulnerable to public use activities, substantial movement of talus or rock should be avoided where possible.



Figure 9. Sensitive Areas - North Block

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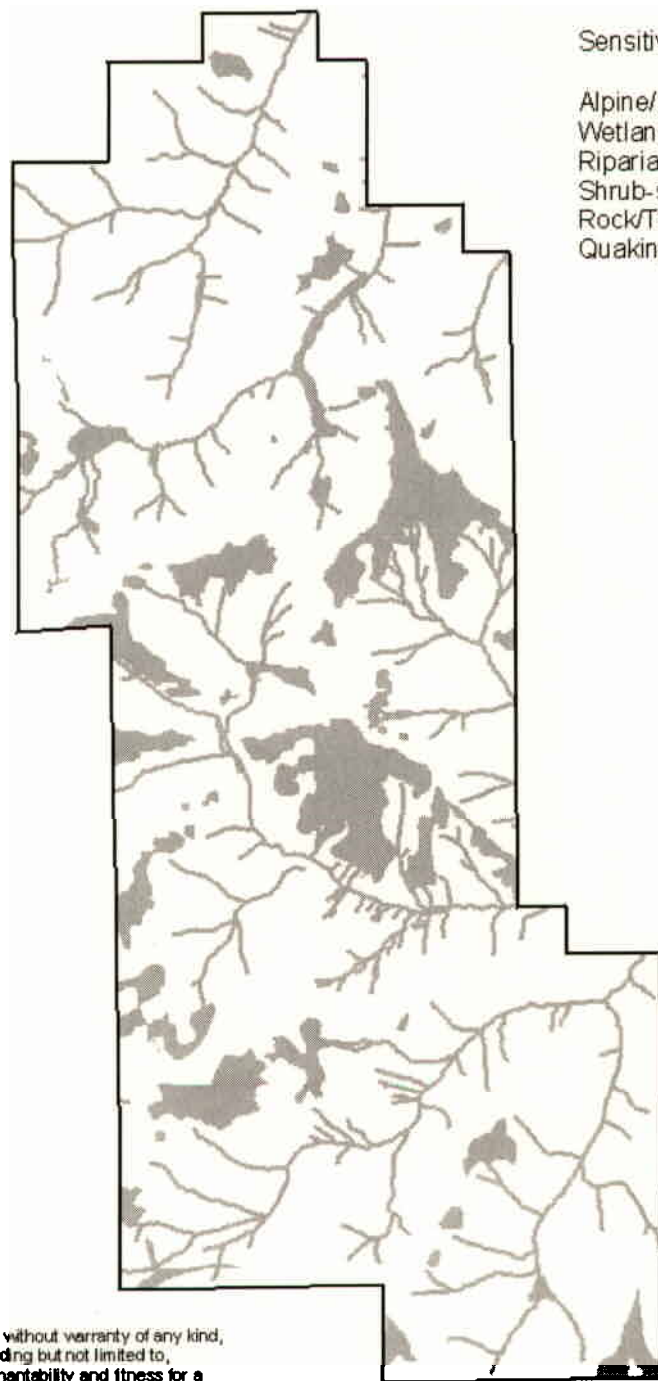
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January 2003



Figure 10. Sensitive Areas - South Block

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Sensitive Areas Include:

Alpine/Subalpine Meadows  
Wetlands and Wet Meadows  
Riparian Areas  
Shrub-steppe/Grassland  
Rock/Talus  
Quaking Aspen

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Loomis NRCA Management Plan  
January 2003



## 574 **B.Fire**

575 The Loomis NRCA is managed according to RCW 79.71 (NRCA Act) to protect natural  
576 processes and natural features. The NRCA is also subject to RCW 76.04.750 which states  
577 that “every reasonable effort will be made to suppress uncontrolled fires”. Within the NRCA  
578 fire may produce beneficial effects and maintains fire-dependent resources, however the  
579 responsibility to protect life and adjacent land is paramount.

580

### 581 *Fire Suppression*

582 The immediate and short-term goal is to act safely and aggressively to suppress all  
583 uncontrolled fires while using discretion to minimize impacts to ecological systems. Loomis  
584 NRCA Fire Control Priorities are as follows:

- 585 1. Protect human life.
- 586 2. Protect adjacent land.
- 587 3. Minimize resource losses (fire suppression impacts to sensitive areas) and fire  
588 costs.

589

### 590 *Wildfire Rehabilitation*

591 Following a wildfire, the burned area should be allowed to regenerate without human  
592 intervention. Specific restoration activities may be needed to restore areas disturbed by fire  
593 suppression activities. Post-fire revegetation will not be undertaken unless natural  
594 revegetation is impeded or slowed to such an extent that the ecological features or processes  
595 in the area will be negatively impacted. Restoration efforts will be designed based on  
596 consultation with Natural Areas Ecologists. Burned areas will be reviewed at Coordinated  
597 Resource Management Meetings to determine an appropriate length of time to restrict  
598 grazing and allow vegetation to recover.

599

600 Refer to the Loomis NRCA Fire Suppression Plan (Appendix E) for more detail.

601

602

## 603 **C.Insects and Disease**

604 Native insects and other pathogenic organisms are part of the NRCA’s natural ecological  
605 conditions and processes. As such, intervention is not recommended when infestations and  
606 disease are the result of native organisms and natural processes. Exceptions include cases  
607 when: non-native, introduced insects or other pathogens create deleterious conditions; law  
608 (RCW 76.06.040) requires management action; or the primary features for which the NRCA  
609 was designated are jeopardized by lack of intervention.

610 The site will be monitored for the presence of bark beetles and for white pine blister rust,  
611 during routine site visits. If monitoring indicates substantial activity of the insects or  
612 pathogens described above, an entomologist or forest pathologist should be consulted  
613 regarding the severity of the activity and possible solutions. Pesticides will not be used,

614 unless necessary to meet legal requirements, in order to protect native insects, particularly  
615 pollinators for the rare plants. If white pine blister rust is found, the need for active  
616 management, including propagation and planting of resistant trees, prescribed fire or other  
617 methods to remove competing tree species, will be considered.

618 If monitoring indicates a need for management action, the Natural Areas Program Natural  
619 Areas Ecologist, in consultation with an entomologist or forest pathologist and forest health  
620 specialists from the Division, will develop an insect and/or disease control plan. This plan will  
621 be attached as an addendum to this plan and will be implemented by the region. All  
622 management actions undertaken will be subject to obtaining necessary permits from other  
623 agencies.

624

625

## 626 **D.Restoration**

627 Restoration activities will be carried out to implement site recovery objectives in situations  
628 where allowing natural ecological and physical process to predominate would threaten the  
629 continued existence or condition of the primary features that the Loomis NRCA was intended  
630 to protect. Any ecological restoration activity should consider the following:

- 631       ▪ Only native plant species will be used for revegetation. Exceptions may occur if a  
632       non-native species is determined to be critical for success and is not expected to  
633       persist long-term.
- 634       ▪ When possible use plants and seeds from adjacent sites.
- 635       ▪ Plant species selected should mimic natural plant communities and associations.
- 636       ▪ When purchasing “native” species, find a local source and make sure that the  
637       origin of the stock supplied is from the same region and is the same variety.
- 638       ▪ Do not use invasive native species that are likely to negatively impact adjacent  
639       native vegetation.
- 640       ▪ Do not use “native species” that are not native to the site.
- 641       ▪ Use soils from adjacent sites and when soils are imported, it is critical that they are  
642       sterilized to minimize the potential import of exotic weed species.

643

644

## 645 **E.Public Use**

646 The NRCA trails system was built and maintained by users. Trails need to be assessed.  
647 Improvements may include structures to protect water crossings, erosion control structures or  
648 signs. User groups have expressed an interest in helping with maintenance of the trail  
649 system. The following trail guidelines and standards are designed to protect natural  
650 resources and maintain a safe, multi-use experience. Some trails may need to be closed or  
651 re-routed.

652

653 **Resource Protection** – When using the NRCA trail system exercise caution when crossing  
654 areas that are wet, or have fragile plant communities (i.e. alpine meadows). Trails can be a  
655 source of resource damage or impact if not properly designed and located on the landscape.  
656 If a trail in the NRCA is impacting a sensitive resource it will be assessed and a solution, such  
657 as structural improvements or re-routing, implemented,. Other issues include, but are not  
658 limited to, silt in streams, out-of-control campfires and trash.

659

660 **Backcountry Experience** –The Loomis NRCA provides a backcountry (no improvements or  
661 facilities other than trails) type of hiking and camping experience however it is not classified  
662 as a wilderness area. “No trace” camping methods are required to maintain the rustic nature  
663 of the site. Whatever is packed in must be packed out. Stewardship of the natural resources  
664 is an important part of using the NRCA and is appreciated by all users.

665 Both blocks of the Loomis NRCA are at high elevations. Weather is unpredictable and may  
666 be extreme. Being prepared for inclement weather during any time of the year is an  
667 important safety consideration. Currently (2002) the trail system is poorly marked and can be  
668 easily confused with game trails. Visitors should exercise caution when navigating the NRCA  
669 and use maps that are up to date and sufficient in detail.

670

671 **Trail Etiquette** – When encountering users on horseback, approach them slowly and with  
672 caution. A startled horse may cause the rider to lose control, be bucked off or cause injury. If  
673 the wildlife should break free, the rider may have to pursue the wildlife for some time and  
674 distance before gaining control again.

675

676 **Wildlife** – The Loomis NRCA includes a wide array of plants and wildlife. One of the more  
677 exciting opportunities of the Loomis NRCA is to see wildlife that are not common (i.e. lynx,  
678 bears, moose, etc.). When recreating in the NRCA, users are in wildlife habitat and should  
679 exercise caution for both the safety of the user and the wildlife. Wildlife with young offspring  
680 are likely to act aggressively to protect the young. If you encounter wildlife, keep a safe  
681 distance and do not attempt get closer and do not feed them. During winter months wildlife  
682 will most likely have to exert precious energy reserves to elude any further contact. This  
683 stress during a critical period can cause mortality or poor reproduction in the spring. Please  
684 exercise caution and consideration when viewing wildlife in the NRCA.

685

686 **Structures** - Trailheads, sign boards, bathroom facilities, water crossings, and cabins or  
687 cabin remnants are important for many reasons. Maintenance, and repair of these structures  
688 resulting from vandalism can be expensive. Working with users and writing grants (by  
689 volunteers and DNR staff) to obtain funding is an important part of maintaining public access  
690 and historic use of the site. Donated labor is one of the most valuable benefits of working  
691 with user groups. Structures must be approved by DNR prior to construction and  
692 implementation and shall be of rustic design and blend into the natural features of the site.

693

694 **Blazing** – Blaze marks are located on two sides of a tree and are made by removing a patch  
695 of bark leaving a scar that is fairly uniform in appearance. These marks are usually visible  
696 from one to the other and denote the location of the trail. Blazes exist for many years and



697 can damage a tree if done improperly; so this method of trail marking needs to be authorized  
698 in advance in writing from DNR. Less severe methods of marking trails are used when the  
699 trail location is subject to change such as a dot of paint. These marks need to be placed high  
700 enough so that the snow pack will not cover them in the winter. An inventory and site plan for  
701 marking trails and installing signs is a high priority. Trails will be marked by DNR or  
702 volunteers with written approval from NE Region or Natural Areas Staff.

703

704 **Trail Standards** - The following three trail types will be used to delineate trails in the Loomis  
705 NRCA. See figures 7 and 8.

706 **Type – A – All Authorized Use Trail, All Season**

707 *Maximum Width:* 8 feet (except roads 12 feet)

708 *Marking Guidelines:* Signage and Blazes

709 *Structure Standards:* Water Crossing, Trail Drainage and Hardening, Signage,  
710 Mileage Markers, Blazes

711 *Users:* Cattle, Horses, Hikers, Snowmobiles

712

713 **Discussion**

714 This trail is maintained at our highest standard and can reasonably be expected to  
715 receive the most use. These trails are also the greatest risk to public resources and  
716 will be a priority for maintenance. These trails are also working trails that provide  
717 natural barriers for fire, corridors for herding cattle, and access for management  
718 purposes. Some areas of the trails overlap with old jeep trails and old logging roads  
719 which are kept open for emergency access.

720

721 **Type – S – Summer Use Only Trail**

722 *Maximum Width:* varies 3-8 feet

723 *Marking Guidelines:* Signage and Clear Path Blazing

724 *Structure Standards:* Water Crossing, Trail Drainage and Hardening

725 *Users:* Cattle, Horses, Hikers

726

727 **Discussion**

728 Summer Use trails also are work trails used to move livestock and provide excellent  
729 access for hikers, hunters, and equestrians. These trails are not old roads but may  
730 date back to the 1890s. Trails are rough and difficult to maneuver. These trails should  
731 be inventoried and it is very likely that portions may need to be relocated into areas  
732 that are easier to maintain and pose less risk to users and resources. Maintenance of  
733 these trails is important because they serve as fire breaks, livestock drive-trails and  
734 provide access by foot, ATV, or horse for management purposes.

735



**Type – W – Winter Use Only**

*Maximum Width:* Approximately 46 inches  
*Marking Guidelines:* Blazing  
*Structure Standards:* No Structures, No Trail Signs  
*Users:* Snowmobiles

**Discussion**

Winter Use trails are trails that have been used historically by snowmobiles and were not used outside of the winter months. These trails will remain discovery trails to meet objectives outlined in the modified Lynx Habitat Management Plan. Thus trails designated for winter use will, be kept narrow (approximately 46" inches) and will require a skilled riders and low speeds. At least 12 –18 inches of down woody debris will be retained for the first 100 - 150 feet in order to discourage cattle and other foot traffic outside of the winter months. The DNR will continue to work with user groups to find effective solutions to minimize inappropriate use.

**Research** - Research activities within the NRCA must be pre-approved by the Natural Areas Ecologist. Research projects will be encouraged among potential researcher groups, such as colleges, universities, and relevant research laboratories. Sources of funding for specific research topics will be sought and applied for, as applicable. Potential partners for research projects and/or funding will also be sought.

Research proposals must follow Natural Areas Program Research Guidelines, which are available from the Region office. Official letters of project approval or denial including any specific conditions will be issued within approximately two weeks of receipt of a proposal. Multi-year projects will be re-evaluated and researchers notified of approval or denial to continue on a yearly basis.

## **F. Forestry Activities**

At times, in order to aid the site's ecological maintenance, restoration or enhancement, certain forestry practices may be necessary. For example, ecological thinning to restore or maintain structural conditions within forested areas may be necessary. However, in those cases, timber harvest is not the activity's objective, but is of secondary or tertiary importance to the stewardship objectives being pursued. It is probable that the cut trees' quality will not be merchantable. Any income that would be generated would be incidental to the forest management practice itself and will be deposited in the Natural Area Stewardship Account (RCW 79.71). Any such decision would be made only after consultation with the Natural Areas Ecologist.

776 **G. Archaeological, Cultural and Historic Sites**

777 The continuation of activities that are part of tribal cultural values and reserved treaty rights  
778 are provided for within federal and state law and DNR policy. Specific tribal uses or cultural  
779 sites have not been identified to date, however state Office of Archaeology and Historic  
780 Preservation records shall be reviewed prior to the implementation of any management  
781 activity. If archaeological and/or historic sites are located within the Loomis NRCA, region  
782 natural areas staff will coordinate with a region or division archaeologist and representative(s)  
783 from affected tribes to protect them.

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785

786 **H. Hunting**

787 Hunting is permitted according to the rules and regulations of the Washington Department of  
788 Fish and Wildlife.

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791 **I. Roads**

792 As stated in the land transfer deed, "The state... reserves the right to use existing and  
793 proposed roads on the property, in locations identified in the land transfer deed (one in the  
794 north block, T40RR24E, Section 34, SE ¼ and in the south block, T37R24E, Section 8, S ½  
795 SE ¼) as Timber Harvest Roads, where reasonably necessary to manage or remove forest  
796 products or other valuable materials from nearby state trust land without charge to the trust,  
797 but the trust shall pay its share of the road maintenance and repair cost. These roads shall  
798 only be built if no other reasonable and economically feasible alternate route can be built on  
799 the adjacent trust land."

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802 **J. Regulation and Law Enforcement**

803 Uses and activities within the NRCA not consistent with the Department's policies and legal  
804 obligations shall be considered a violation against the department. DNR's existing law  
805 enforcement policies shall apply and will be enforced by DNR.

806 Enforcement measures should emphasize non-confrontational techniques and voluntary  
807 compliance. Education programs may help reduce conflicts among user groups. Where  
808 certain uses are not permitted, informing visitors where these activities are permitted may  
809 help reduce the number of violations. Because enforcement of regulations is integral to the  
810 effective implementation of recommendations made in this plan, funding for enforcement  
811 should be pursued to meet program goals.

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## 815 **K.Weeds**

816 Due to the high elevation and relatively short growing season, the potential severity of weed  
817 infestations is probably limited. Some shade tolerant species may be found below the 5000 –  
818 5500 feet elevation, including common houndstongue (*Cynoglossum officinale*) and possibly  
819 St. John's wort (*Hypericum perforatum*). Other noxious weed species with notable potential  
820 to occur in the NRCA are Canada thistle (*Cirsium arvense*), diffuse knapweed (*Centaurea*  
821 *diffusa*), spotted knapweed (*Centaurea maculata*), Russian knapweed (*Acroptilon repens*),  
822 and possibly other knapweed species (*Centaurea* spp.). Canada thistle is most likely to be  
823 found in wet or moist disturbed areas, while knapweeds are more likely to occur along roads,  
824 in clearcuts, and other heavily or chronically disturbed areas. In the absence of large  
825 disturbances such as fire, road construction, or logging, these are not likely to spread  
826 significantly if they do become established.

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## SECTION IV: IMPLEMENTATION

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This plan will be implemented by DNR Natural Areas staff. Most of the management actions in this plan are focused in sensitive areas that overlap with public use or heavy grazing areas. Actions will be implemented as funding becomes available and the list will be used to coordinate active recruitment of funds and support for projects. Volunteer site stewards will play an important role in maintaining an active presence at the site and conducting regular visual inspections. Implementation is contingent upon cooperation and coordination among and with user groups.

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Success of the plan will depend on efforts to monitor and evaluate the NRCA and to tailor the management of the site to meet changing conditions. Success also depends on maintaining good working relationships with users, adjacent land managers, land owners and associated agencies, while carrying out the intent and requirements of the NRCA Act.

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### A.Summary of Management Actions

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Implementation is dependent on available funding.

845

#### Forest Zones and Plant Communities

##### Sub-alpine fir zone

- Inventory and monitor the site for whitebark pine and monitor for occurrence of white pine blister rust.
- Coordinate with North Cascades National Park (and USFS) on monitoring the spread and potential management of white pine blister rust.
- Research options and opportunities to maintain the role of fire in the ecosystem.

##### Douglas-fir zone

- Assess the feasibility and effectiveness of creating fuel breaks in the Douglas fir zone

##### Quaking Aspen Forest

- Inventory and map aspen stands and seral conditions.
- Maintain aspen component at its current approximate acreage or greater with a mix of seral conditions at landscape scale.
- Consider the use of prescribed fire or mechanical disturbance within aspen stands if necessary to maintain mixed seral conditions.

### **Riparian and Wetlands**

- Work with permit holders to achieve the Ecosystem Standards for State-owned Agricultural and Grazing Land.
- Maintain a mix of seral conditions throughout the NRCA where wetlands are dominated by native, non-increaser species and have a mix of shrub size classes where appropriate.
- Inventory and map riparian habitats
- Assess trails where they interface with wetlands.
- Relocate or recondition trails to address impacts to natural hydrologic and geomorphic processes.

### **Shrub Steppe**

- Inventory and map seral conditions of shrub steppe communities.
- Maintain a mix of seral conditions in shrub-steppe communities throughout the NRCA.
- Work with permit holders to achieve Ecosystem Standards.

### **Sub-alpine/Alpine Grassland and Shrubland**

- Maintain alpine communities dominated by native, non-increaser species, with few or no introduced species.
- Maintain a mosaic of shrub/herb-dominated communities and parkland communities.
- Survey/Inventory vegetation in alpine areas.
- Avoid trail development in alpine areas.
- Refer to Sub-alpine fir zone Management Actions for reference to Whitebark pine blister rust.
- Work with permit holders to achieve Ecosystem Standards.

### **Rock/Talus**

- Map talus areas and survey them for rare plant and wildlife species.

### **Harvested Areas**

- Monitor **weed** populations and if **necessary** develop and implement a **weed control** plan.
- Provide opportunities for research.

## **Plant Species**

### **Rare Plants**

- Maintain Ecosystem Standards to help ensure that viable populations of rare plant taxa continue to exist, subject to natural variations.
- Survey the project site for rare plants prior to ground disturbing projects.
- Systematically inventory the NRCA for other potential occurrences of sensitive, threatened or endangered plant species.
- Work with Natural Heritage botanists to determine appropriate monitoring scheme for two-**spiked** moonwort.
- Revisit known occurrences of state sensitive plants at least every three years at the

appropriate time of year and update their status..

### **Noxious Weeds**

- Conduct periodic inspections of areas with high potential for weed invasion, i.e. harvested and burned areas, roads and trails.
- As occurrences of noxious weeds are encountered, they should be mapped, documented, and a control plan developed.
- Weed control plans, when developed, will use an integrated pest management approach and focus on minimizing impacts of the control methods while effectively controlling target weeds.

## **Wildlife Habitat**

### **Late Successional Forest**

- Allow late successional forest characteristics to develop through natural processes and natural ranges of variability.

### **Grizzly Bear**

- Distribute and post safety procedures for avoiding contact with grizzly bear.

### **Gray Wolf**

- Trails may need to be temporarily closed to avoid disturbance to a den or rendezvous site – especially those that are located near water and meadows.

### **Wolverine**

- Trails may need to be temporarily closed or moved to avoid disturbance to a den or rendezvous site.

### **Canada Lynx**

- Coordinate with US Fish and Wildlife Service and Washington Department of Fish and Wildlife to meet lynx habitat protection goals and objectives outlined in the Modified Lynx Habitat Plan.
- Adapt management actions as additional research is provided.

### **Northern Goshawk**

- Consider potential impacts of management and recreational activities around known and potential nest sites.

### **Alpine Butterflies**

- Management actions are the same as those outlined for the subalpine/alpine grassland and shrubland plant communities (see the Forest Zones and Plant Communities section).

### **Special Interest Species**

- Maintain an awareness of indicator species and their natural range of variation.
- Support Washington Department of Fish and Wildlife and the Canadian Wildlife Service efforts to monitor and maintain bighorn sheep populations.

### **Non-Native and Introduced Animals**



- Conduct periodic inspections of the site for non-native wildlife species.
- As non-native wildlife species are discovered, sightings and disturbance to the site should be documented, and if necessary work with the Department of Fish and Wildlife to develop a control plan.

## **Land Use**

### **Access**

- Work with user groups to develop and install new signs with a positive message.
- Work with user groups to develop a site plan for each access point that serves permitted uses.

### **Recreation/Trails**

- Assess trail locations and impacts to natural resources and re-route or improve trails to increase user safety and resource protection.
- Develop a trail maintenance agreement with user groups.
- Bring together user groups annually to discuss trail maintenance issues and plan maintenance projects.
- Maintain trails in accordance with trail standards and guidelines outlined in the Guidelines Chapter of this plan.
- Maintain (keep vegetation trimmed back) the portion of Fourteenmile Road that extends into the Loomis NRCA for emergency vehicle access.
- Allow spur roads to revegetate and officially abandon through Forest Practices Rules and Regulations.

### **Permit Range Management**

- Participate in Coordinated Resource Management Meetings and the permit renewal process.
- Use signs to remind users of the importance of closing gates.
- Implement management decisions from coordinated Resource Management Meetings.

### **Environmental Education**

- Conduct a site analysis to determine the site's capacity for outdoor environmental education.
- Identify features of educational value.
- Conduct a survey or interviews to identify environmental education needs of the local communities. Match needs appropriately with site capacity, educational opportunities and proximity to local education centers.
- Determine appropriate means such as brochures, self-guided tours, or interpretive signs for delivering the identified environmental message.
- Exhibit and distribute information on research opportunities to higher education institutions.

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## 847 **B.Summary of Monitoring and Research Needs**

848 Monitoring is an examination of change over time and is used to help determine if  
849 management activities are producing the desired results. Monitoring may include simple  
850 visual inspections of plant species and plant communities every year or few years, or in the  
851 case of particularly rare or sensitive species and communities, designed monitoring plans  
852 may be warranted. Currently, some designed monitoring occurs within the NRCA in  
853 association with Resource Management Plans for permit ranges. This monitoring is designed  
854 to assess forage utilization as well as resource conditions related to HB1309 Ecosystem  
855 Standards. Natural Areas staff will coordinate with the Coordinated Resource Management  
856 group on permit range monitoring activities.

857

### **Monitoring**

#### **Visual Monitoring**

- Monitor for occurrence of white pine blister rust. Coordinate with USFS.
- Monitor weed populations in disturbed areas and if necessary develop and implement a weed control plan.

#### **Other Monitoring Needs**

- Work with Natural Heritage botanists to determine appropriate monitoring scheme for two-spiked moonwort.
- 
- Monitor status and condition of sensitive areas (aspen, wetland/riparian, shrub-steppe and alpine habitats).

### **Research**

- Research options and opportunities to maintain the role of fire in the ecosystem.
- Fire history and ecology of the area.
- Development and creation of Late Successional Habitat.
- Cooperate with Lynx habitat studies.

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## APPENDICES

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### A. Legal Boundary Description

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Loomis NRCAs – Okanogan County

023

#### NORTH BLOCK (TOWNSHIP 40)

024

In Township 40 North, Range 24 East, W.M.

025

<u>Section</u>	<u>Subdivision</u>
026 1	E $\frac{1}{2}$ SE $\frac{1}{4}$
027 2	GOV LOT 4; SW $\frac{1}{4}$ NW $\frac{1}{4}$ ; W $\frac{1}{2}$ SW $\frac{1}{4}$ ; SE $\frac{1}{4}$ SW $\frac{1}{4}$
028 3	ALL (Fractional Section)
029 4	ALL (Fractional Section)
030 5	ALL (Fractional Section)
031 6	GOV LOT 1-3; S $\frac{1}{2}$ NE $\frac{1}{4}$ ; SE $\frac{1}{4}$
032 8	ALL
033 9	ALL
034 10	ALL
035 11	NW $\frac{1}{4}$ ; NW $\frac{1}{4}$ SW $\frac{1}{4}$
036 12	SE $\frac{1}{4}$ SW $\frac{1}{4}$ ; E $\frac{1}{2}$
037 13	E $\frac{1}{2}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ ; E $\frac{1}{2}$ NW $\frac{1}{4}$ ; SW $\frac{1}{4}$ ; E $\frac{1}{2}$
038 15	W $\frac{1}{2}$ ; W $\frac{1}{2}$ E $\frac{1}{2}$ ; S $\frac{1}{2}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$
039 16	ALL
040 17	ALL
041 20	ALL
042 21	ALL
043 22	ALL
044 23	S $\frac{1}{2}$
045 24	ALL
046 26	N $\frac{1}{2}$ N $\frac{1}{2}$
047 27	ALL
048 28	ALL
049 29	ALL
050 32	ALL
051 33	ALL
052 34	ALL
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054	TOTAL ACRES NORTH BLOCK: 13,991.72
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055 **SOUTH BLOCK (UPPER SINLAHEKIN)**

056 **In Township 38 North, Range 23 East, W.M.**

057 **Section                      Subdivision**

058 13                      S½SE¼

059 23                      SE¼

060 24                      ALL

061 25                      ALL

062 26                      E½

063 35                      E½

064 36                      ALL

065

066 **In Township 38 North, Range 24 East, W.M.**

067 18                      GOV LOT 4

068 19                      GOV LOT 1-4; E½W½; S½SE¼

069 29                      W½W½

070 30                      ALL (Fractional Section)

071 31                      ALL (Fractional Section)

072 32                      W½W½

073

074 **In Township 37 North, Range 23 East, W.M.**

075 1                      ALL (Fractional Section)

076 12                      ALL

077 13                      ALL

078 24                      N½

079

080 **In Township 37 North, Range 24 East, W.M.**

081 5                      GOV LOT 4; SW¼NW¼; W½SW¼

082 6                      ALL (Fractional Section)

083 7                      ALL (Fractional Section)

084 8                      W½NW¼; SW¼; S½SE¼

085 17                      ALL

086 18                      ALL (Fractional Section)

087 19                      GOV LOT 1-2; E½NW¼; E½

088 20                      ALL

089

090 **TOTAL ACRES SOUTH BLOCK:                      10,677.97**

091 **TOTAL ACRES (North and South)                      24,669.69**

092

092 **B.Bureau of Land Management Wilderness Study Area**

093

094 The following information is from the Chopaka Wilderness Study conducted in 1982.

095

096 A threatened and endangered plant inventory was conducted, and eight species proposed for  
097 State Listing were found in and near the study area.

098 The eight sensitive plant species are:

099

100	<i>Draba aurea</i>	yellow drabe
101	<i>Dodecatheon pulchellum</i> var. <i>wattsonii</i>	few-flowered shooting star
102	<i>Potentilla quinquefolia</i>	five-leaved cinquefoil
103	<i>Potentilla nivea</i>	snow cinquefoil
104	<i>Potentilla diversifolia</i> var. <i>perdissecta</i>	diverse leaved cinquefoil
105	<i>Salix tweedyi</i>	Tweedy's willow
106	<i>Gentiana glauca</i>	glaucous gentian
107	<i>Carex scirpoidea</i> var. <i>scirpoidea</i>	Canadian single spike sedge

108

## C.Status Categories for Wildlife and Plants

### U.S. Fish and Wildlife Service Status Categories for Wildlife and Plants

**Candidate** - Plants and animals that have been studied and the Service has concluded that they should be proposed for addition to the Federal endangered and threatened species list. These species have formerly been referred to as category 1 candidate species. From the February 28, 1996 Federal Register, page 7597: "those species for which the Service has on file sufficient information on biological vulnerability and threat(s) to support issuance of a proposed rule to list but issuance of the proposed rule is precluded."

**Endangered** - The classification provided to an wildlife or plant in danger of extinction within the foreseeable future throughout all or a significant portion of its range.

**Threatened** - The classification provided to an wildlife or plant likely to become endangered within the foreseeable future throughout all or a significant portion of its range.

### Washington Natural Heritage Program Status Categories for Vascular Plants

Plant taxa are assigned a statewide status by the Washington Natural Heritage Program. The state Endangered Species Act in Washington does not include provisions to list or protect plant species. Therefore, the lists included in the Endangered, Threatened and Sensitive Vascular Plants of Washington with Working Lists of Rare Non-Vascular Species (1997) have no statewide legal authority; they are advisory only. This publication serves as the most current reference on the status of Washington's rare plant taxa (WA Natural Heritage Program 1997). The first four of the six categories (endangered, threatened, sensitive and, possibly extinct or extirpated in Washington) are intended to convey the relative degree of threat that individual taxa are under in Washington and consequently, the level of concern and protection that each should receive (WA Natural Heritage Program 1997).

**Endangered** This status is assigned to each vascular plant taxon in danger of becoming extinct or extirpated in Washington within the near future if factors contributing to its decline continue. Populations of these taxa are at critically low levels or their habitats have been degraded or depleted to a significant degree.

**Threatened** Any taxon likely to become Endangered in Washington within the foreseeable future if factors contributing to its population decline or habitat degradation or loss continue.

148 **Sensitive** Any taxon that is vulnerable or declining and could become Endangered or  
149 Threatened in the state without active management or removal of threats.

150

151 **Possibly Extinct or Extirpated from Washington** Based on recent field searches, a  
152 number of plant taxa are considered to be possibly extinct or extirpated from Washington.  
153 Taxa in this group are all high priorities for field investigations. If found, they will be assigned  
154 one of the above status categories.

155

156 **Review** This category consists of two groups of taxa for which more information is  
157 needed to accurately assess their status. Group 1 (i.e. R1) includes taxa for which additional  
158 field work is needed before a status can be assigned. Group 2 (i.e. R2) includes taxa with  
159 unresolved taxonomic questions.

160

161 **Watch** This status is assigned to each vascular plant taxon that is more abundant  
162 and/or less threatened in Washington than previously assumed. Although the Washington  
163 Natural Heritage Program does not focus on these taxa, information about them is still  
164 gathered and stored in our information system.

165

166

167

## 168 **Washington State Department of Fish and Wildlife Species Status**

### 169 **Categories for Wildlife**

170 Species of Concern in Washington include those species listed as State Endangered, State  
171 Threatened, State Sensitive, or State Candidate, as well as species listed or proposed for  
172 listing by the U.S. Fish and Wildlife Service or the National Marine Fisheries Service.

173

174 **State Endangered Species** is defined in WAC 232-12-297, Section 2.4, to include "any  
175 wildlife species native to the state of Washington that is seriously threatened with extinction  
176 throughout all or a significant portion of its range within the state."

177

178 **State Threatened Species** is defined in WAC 232-12-297, Section 2.5, to include "any  
179 wildlife species native to the state of Washington that is likely to become an endangered  
180 species within the foreseeable future throughout a significant portion of its range within the  
181 state without cooperative management or removal of threats."

182

183 **State Sensitive Species** is defined in WAC 232-12-297, Section 2.6, to include "any wildlife  
184 species native to the state of Washington that is vulnerable or declining and is likely to  
185 become endangered or threatened throughout a significant portion of its range within the  
186 state without cooperative management or removal of threats."

187

188 **State Candidate Species** is defined in WDFW Policy M-6001 to include fish and wildlife  
189 species that the Department will review for possible listing as State Endangered, Threatened,  
190 or Sensitive. A species will be considered for designation as a State Candidate if sufficient  
191 evidence suggests that its status may meet the listing criteria defined for State Endangered,  
192 Threatened, or Sensitive.

193

194

195

## 196 **Global and State Ranking System**

197 The ranking system used by the Natural Heritage Network facilitates a quick assessment of a  
198 taxon's global and state rarity. Each taxon is assigned both a global (G) and state (S) rank of  
199 1 to 5. The rank is based on the number of known occurrences, quality of habitat, number of  
200 individuals, population and habitat trends, threats, etc. All state (S) ranks have been  
201 assigned by the Washington Natural Heritage Program. Global (G) ranks have been  
202 assigned by various state Natural Heritage Programs (WA Natural Heritage Program 1997).  
203 Some species have two G ranks or two S ranks and this indicates uncertainty between two  
204 ranks.

205

## 206 ***State Rank***

207 State rank characterizes the relative rarity or endangerment within the state of Washington.  
208 Factors including, but not limited to, number of known occurrences are considered when  
209 assigning a rank. Two codes together represent an inexact range (e.g., S1S2) or different  
210 ranks for breeding and non-breeding populations (e.g., S1B, S3N).

211 Values and their definitions:

212

213 S1 = Critically imperiled in the state because of extreme rarity or other factors making it  
214 especially vulnerable to extirpation from the state. (Typically 5 or fewer occurrences or  
215 very few remaining individuals or acres)

216 S2 = Imperiled in the state because of rarity or other factors making it very vulnerable to  
217 extirpation from the state. (Typically 6 to 20 occurrences or few remaining individuals or  
218 acres)

219 S3 = Rare or uncommon in the state. (Typically 21 to 100 occurrences)

220 S4 = Widespread, abundant, and apparently secure in state, with many occurrences, but the  
221 taxon is of long-term concern. (Usually more than 100 occurrences)

222 S5 = Demonstrably widespread, abundant, and secure in the state; believed to be  
223 ineradicable under present conditions.

224 SH = Historical occurrences only are known, perhaps not verified in the past 20 years, but the  
225 taxon is suspected to still exist in the state.

226 SP = Potential for occurrence of the the taxon in the state but no occurrences have been  
227 reported.



228 SR = Reported in the state but without persuasive documentation which would provide a  
 229 basis for either accepting or rejecting the report (e.g., misidentified specimen).

230 SRF = Reported falsely in the state but the error persists in the literature.

231 SU = Uncertain. Possibly in peril in the state, but status is uncertain. More information is  
 232 need.

233 SX = Believed to be extirpated from the state with little likelihood that it will be rediscovered.

234 S? = Not yet ranked. Sufficient time and effort have not yet been devoted to ranking of this  
 235 taxon.

236

237

238 Qualifiers are sometimes used in conjunction with the State Ranks described above:

239

240 B - Rank of the breeding population in the state.

241 N - Rank of the non-breeding population in the state.

242 B and N qualifiers are used to indicate breeding and non-breeding rank of migrant species  
 243 whose non-breeding rank may be quite different from their breeding rank in the state (e.g.,  
 244 S1B, S4N for a very rare breeder that is a common winter resident).

245 ? qualifier is used with numeric ranks to denote uncertainty; more information may be needed  
 246 to assign a rank with certainty. The '?' qualifies the character it follows (e.g., SE? denotes  
 247 uncertainty of exotic status).

248 SnSn Two codes (i.e., S1S2) are used to indicate a range of ranks.

249

250

251 **Global Rank**

252 Global rank characterizes the relative rarity or endangerment of the element world-wide.  
 253 Factors including, but not limited to, number of occurrences are considered when assigning a  
 254 rank.

255 Values and their definitions:

256

257 G1 = Critically imperiled globally because of extreme rarity or because of some factor(s)  
 258 making it especially vulnerable to extinction. (Typically 5 or fewer occurrences or very  
 259 few remaining individuals or acres).

260 G2 = Imperiled globally because of rarity or because of some factor(s) making it very  
 261 vulnerable to extinction throughout its range. (6 to 20 occurrences or few remaining  
 262 individuals or acres).

263 G3 = Either very rare and local throughout its range or found locally (even abundantly at  
 264 some of its locations) in a restricted range (e.g., a single western state, a  
 265 physiographic region in the East) or because of other factors making it vulnerable to  
 266 extinction throughout its range. (21 to 100 occurrences)

267 G4 = Widespread, abundant, and apparently secure globally, though it may be quite rare in  
 268 parts of its range, especially at the periphery. Thus, the Element is of long-term  
 269 concern. (Usually more than 100 occurrences)  
 270 G5 = Demonstrably widespread, abundant, and secure globally, though it may be quite rare  
 271 in parts of its range, especially at the periphery.  
 272 GU = Unrankable. Possibly in peril range-wide but status uncertain. More information is  
 273 needed.  
 274  
 275 G? = Not yet ranked. Sufficient time and effort have not yet been devoted to ranking of this  
 276 taxon.  
 277  
 278 Qualifiers are used in conjunction with the Global Ranks described above:  
 279  
 280 T<sub>n</sub> Where n is a number or letter similar to those for G<sub>n</sub> ranks, above, but indicating  
 281 subspecies or variety rank. For example, G3TH indicates a species that is ranked G3 with  
 282 this subspecies ranked as historic.  
 283 Q = Questionable. Taxonomic status is questionable and the numeric rank may change  
 284 with taxonomy.  
 285 ? = The specified rank is uncertain; more information may be needed to assign a rank with  
 286 certainty.  
 287 GnGn Two codes (i.e., G1G2) are used to indicate a range of ranks.  
 288

288

## D.Common and Scientific Names

289

### Common Name

### Scientific Name

#### Plants

California brome

*Bromus carinatus*

Canada thistle

*Cirsium arvense*

Cascade azalea

*Rhododendron albiflorum*

Cheatgrass

*Bromus tectorum*

Cinquefoil

*Potentilla sp.*

Common houndstongue

*Cynoglossum officinale*

Common snowberry

*Symphoricarpos albus*

Desert-parsley

*Lomatium sp.*

Diffuse knapweed

*Centaurea diffusa*

Dogwood bunchberry

*Cornus canadensis*

Douglas fir

*Pseudotsuga menziesii*

Engelmann spruce

*Picea engelmannii*

Groundsel

*Senecio sp.*

Grouse huckleberry

*Vaccinium scoparium*

Heartleaf arnica

*Arnica cordifolia*

Horsetail

*Equisetum sp.*

Idaho fescue

*Festuca idahoensis*

Kinnikinnick

*Arctostaphylos uva-ursi*

Knapweed

*Centaurea spp.*

Labrador tea

*Ledum glandulosum*

Lodgepole pine

*Pinus contorta var. latifolia*

Low huckleberry

*Vaccinium myrtillus*

Lupine

*Lupinus sp.*

Mountain big sagebrush

*Artemisia tridentata ssp. vaseyana*

Mountain snowberry

*Symphoricarpos oreophilus*

Mountain sorrel

*Oxyria digyna*

Ninebark

*Physocarpus malvaceus*

290

**Plants Continued**

Pachistima  
 Pinegrass  
 Ponderosa pine  
 Prairie smoke  
 Purple oniongrass  
 Pussytoes  
 Quaking aspen  
 Rush  
 Russian knapweed  
 Sedge  
 Shiny-leaf spirea  
 Snowbrush  
 Spotted knapweed  
 Spotted saxifrage  
 St. John's wort  
 Starry false Solomon seal  
 Strawberry  
 Subalpine fir  
 Twinflower  
 Western larch  
 Western wheatgrass  
 Wheeler bluegrass  
 Whitebark pine  
 Willow  
 Yarrow

*Pachistima myrsinites*  
*Calamagrostis rubescens*  
*Pinus ponderosa*  
*Geum triflorum*  
*Melica spectabilis*  
*Antennaria* sp.  
*Populus tremuloides*  
*Juncus* sp.  
*Acroptilon repens*  
*Carex* sp.  
*Spirea betulifolia*  
*Ceanothus* sp.  
*Centaurea maculata*  
*Saxifraga bronchialis*  
*Hypericum perforatum*  
*Smilacina stellata*  
*Fragaria* sp.  
*Abies lasiocarpa*  
*Linnaea borealis*  
*Larix occidentalis*  
*Pascopyrum smithii*  
*Poa nervosa*  
*Pinus albicaulis*  
*Salix* sp.  
*Achillea millefolium*

**Wildlife**

Beaver  
 Black bear  
 Black-backed woodpecker  
 Bobcat  
 Boreal chickadee

*Castor canadensis*  
*Ursus americanus*  
*Picoides arcticus*  
*Lynx rufus*  
*Poecile hudsonicus*

Boreal owl	<i>Aegolius funereus</i>
California bighorn sheep	<i>Ovis canadensis</i>
Canada lynx	<i>Lynx canadensis</i>
Chipmunk	<i>Tamias sp.</i>
Clark's nutcracker	<i>Nucifraga columbiana</i>
Cougar	<i>Felis concolor</i>
Coyote	<i>Canis latrans</i>
Elk	<i>Cervus elaphus</i>
Gray wolf	<i>Canis lupus</i>
Great gray owl	<i>Strix nebulosa</i>
Grizzley bear	<i>Ursus arctos horribilis</i>
Ground squirrel	<i>Spermophilus sp.</i>
Marmot	<i>Marmota caligata</i>
Moose	<i>Alces alces</i>
Mountain goat	<i>Oreamnos americanus</i>
Mule deer	<i>Odocoileus hemionus</i>
Northern bog lemming	<i>Synaptomy borealis</i>
Pine grosbeak	<i>Pinicola enucleator</i>
Raven	<i>Corvus corax</i>
Red squirrel	<i>Tamiasciurus hudsonicus</i>
Snowshoe hare	<i>Lepus americanus</i>
Spruce grouse	<i>Falcapennis canadensis</i>
Stellar jay	<i>Cyanocitta stelleri</i>
Three-toed woodpecker	<i>Picoides tridactylus</i>
White-tailed deer	<i>Odocoileus virginianus</i>
White-tailed ptarmigan	<i>Lagopus leucurus</i>
Wolverine	<i>Gulo gulo luscus</i>

291

292

293

294